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BIBLIOGRAPHY

DISSERTATIONS FOR DEGREES IN SCIENCE AND ENGINEERING DEFENDED AT USSR HIGHER EDUCATIONAL INSTITUTIONS. 26 Aug 60, 30p. 279 refs. JPRS: 5386.
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Trans. from Knizhnaya Letopis', Moscow (USSR) 1959, nos. 46-49.

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Compiled from 1959 Apr-June issues of Referativnyy Zhurnal series: Astronomiya i Geodezia, Geofizika, Mekhanika, Fizika, Matematika and Elektrotekhnika.

The items are arranged alphabetically by author giving the translated title of the article, the original source of the article with its translation, the Referativnyy Zhurnal series title, number, year, and the abstract number. (See also 60-31424)

Library of Congress, Washington, D. C.
EAST EUROPEAN ACCESSIONS INDEX, Sep 60, 275p.
Order from GPO $10.00/year

Designed to serve the English-speaking user, this index lists post World War II publications received by the Library of Congress and over 100 major American research libraries from Albania, Bulgaria, Czechoslovakia, Estonia, Hungary, Latvia, Lithuania, Poland, Rumania, and Yugoslavia in all fields of knowledge. Arrangement in the first part is by country and within each country by 17 subject classes. In addition to the entry in the original language, a translation of the title or a descriptive annotation in English is given for each monograph and periodical, with the tables of contents translated into English for selected periodicals. The second part, comprising approximately two-thirds of the Index, consists of a subject index to all articles appearing in periodicals for which the tables of contents are translated and to all monographs listed.

AGRICULTURE

Fitina, L.
SCIENTIFIC CONFERENCE ON THE PROBLEM OF PHYSIOLOGICAL STIMULATION IN THE FATTENING OF AGRICULTURAL ANIMALS (Nauchnaya Konferentsiya po Probleme Physiologicheskoy Stimulyatsii Otkorma Sel'skokhozyaystvennykh Zhivotnykh). 23 Aug 60, 9p. Trans. A-1193.
Order from LC or SLA mi$1.80, ph$1.80 60-23724

Trans. of Vestnik Sel'skokhozyaystvennoy Nauki (USSR) 1960, v. 5, no. 4, p. 136-138.

Authors, titles, and brief summaries are given of papers presented at the conference held in Moscow in December 1959.

Obukhovskiy, V. M.
PROBLEMS OF DETERMINING THE ANTICIPATED REQUIREMENTS AND OF PLANNING THE PREPARATION OF AGRICULTURAL SPECIALISTS (Voprosy Opredeleniya Perspektivnoy Potrebnosti i Planirovaniya Podgotovki Spetsialistov dlya Sel'skogo Khozyaystva). 25 Aug 60, 11p. Trans. A-1196.
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Trans. of Moskovskaya Sel'skokhozyaystvennaya Akademiya. Doklady (USSR) 1958, v. 38, p. 41-46

Sonnemann, Th.
THE GERMAN AGRICULTURE IN THE EUROPEAN MARKET (Die Deutsche Landwirtschaft im Europäischen Markt). [1960] [18]p.
Order from SLA mi$2.40, ph$3.30 60-18023

Trans. of Agrarwirtschaft (West Germany) 1958, v. 7, no. 3, p. 80-86.

Yakhontov, V. V.
CHINESE MONTHLY JOURNAL "ENTOMOLOGICAL SCIENCE" (Yezhemesyachnyy Kitayskiy Zhurnal "Entomologicheskiye Znaniya"). 3 Aug 60, 5p.
Trans. A-1188.
Order from LC or SLA mi$1.80, ph$1.80 60-23714

Trans. of Zashchita Rastenii [ot Vrediteley i Bolezney] (USSR) 1960, v. 5, no. 5, p. 54.

The contents are reviewed of the first four of the monthly issues of the Chinese-language journal K'un Ch'ung Chih Shih. (From its inception in 1955 until May 1959 the journal had been published every two months.) Data published by the journal are recommended for Soviet readers.

Plant Cultivation

REFERATIVNYY ZHURNAL. BIOLOGIYA (USSR) 1959, NO. 4 (Soviet Abstracts. Biology). 1 Aug 60, 42p.
JPRS: 5180-N.
Order from OTS $1.00. 60-41073

Contents:
Section I. Plant Physiology. Abstracts 15242-15329.

Complete translations of those entries which were originally published in the Sino-Soviet bloc and in Yugoslavia.

REFERATIVNYY ZHURNAL. BIOLOGIYA (USSR) 1959, NO. 4 (Soviet Abstracts. Biology). 19 Aug 60, 45p. JPRS: 5362.
Order from OTS $1.00 60-41222

Contents:
Section J. Soil Science. Abstracts 15336-15445.

Complete translations of those entries which were originally published in the Sino-Soviet bloc and in Yugoslavia.

REFERATIVNYY ZHURNAL. BIOLOGIYA (USSR) 1959 (Soviet Abstracts. Biology).
Order from OTS $1.00

Contents:
Section K. Forestry.

No. 2, Abstracts 6122-6198, JPRS: 5181, 60-41074
No. 3, Abstracts 10743-10812, JPRS: 5232, 60-41129
No. 4, Abstracts 15446-15516, JPRS: 5363, 60-41223
No. 6, Abstracts 24684-24747, JPRS: 5184, 60-41079

Complete translations of those entries which were originally published in the Sino-Soviet bloc and in Yugoslavia.

REFERATIVNYY ZHURNAL. BIOLOGIYA (USSR) 1959 (Soviet Abstracts. Biology).
Order from OTS $1.00

Contents:
Section L. Meadow Cultivation.

No. 1, Abstracts 1516-1536, JPRS: 5364, 60-41226
No. 6, Abstracts 24748-24771, JPRS: 5383, 60-41242

Complete translations of those entries which were originally published in the Sino-Soviet bloc and in Yugoslavia.

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Section M. Cultivated Plants. Abstracts 24783-25144.

Complete translations of those entries which were originally published in the Sino-Soviet bloc and in Yugoslavia.

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Order from OTS $1.00

Contents:
Section N. Weeds and Weed Control.

No. 3, Abstracts 11204-11230, JPRS: 5341, 60-41207
No. 6, Abstracts 25147-25157, JPRS: 5458, 60-41288

Complete translations of those entries which were originally published in the Sino-Soviet bloc and in Yugoslavia.

REFERATIVNYY ZHURNAL. BIOLOGIYA (USSR) 1959 (Soviet Abstracts. Biology).
Order from OTS $1.00

Contents:
Section O. Plant Diseases.

No. 3, Abstracts 11234-11312, JPRS: 5342, 60-41208
No. 6, Abstracts 25169-25230, JPRS: 5459, 60-41289

Complete translations of those entries which were originally published in the Sino-Soviet bloc and in Yugoslavia.

Andreyeva, G. A.
WHAT THE EXPERIMENTS OF THE CORN INSTITUTE TELL (O Chem Govoryat Opyty Instituta Kukuruzy). 5 Aug 60, 5p. Trans. A-1175.
Order from LC or SLA mi$1.80, ph$1.80 60-23710

Trans. of Zashchita Rastenii [ot Vrediteley i Bolezney] (USSR) 1960, v. 5, no. 5, p. 30-31.

Information is presented on the control of wireworms with new poisons (e.g., Hexachloran and mercuran).

Kostenko, I. R.
PROBLEMS IN UZBEKISTAN (Problemy Uzbekistana) 4 Aug 60, 14p. (3 illus. omitted). Trans. A-1186.
Order from LC or SLA mi$2.40, ph$3.30 60-23712

Trans. of Zashchita Rastenii [ot Vrediteley i Bolezney] (USSR) 1960, v. 5, no. 5, p. 3-7.

Agricultural problems are discussed with respect to the resolutions of the 21st Congress of the Communist Party of the Soviet Union. Special emphasis is given to measures required to increase the yield of cotton.

Kozlova, M. V.
SOME DATA ON THE RADIOACTIVITY OF VEGETABLES. 22 Sep 60, 4p. 6 refs. JPRS: 3979.
Order from OTS $0.50 60-31791

Trans. of Voprosy Pitaniya (USSR) 1960, v. 19, no. 4, p. 83-85.

Krayevoy, S. Ya.
THE FLOWERING OF CABBAGE DURING THE FIRST YEAR OF GROWTH WHEN GRAFTED ON SPRING RAPE. [1960] 6p. (5 tables omitted) 2 refs.
Order from LC or SLA mi$1.80, ph$1.80 60-18002

Trans. of Akad[emiya] Nauk SSSR. Doklady, 1948, v. 60 [no. 5] p. 909-912.

Cabbage scions that were grafted during early growth stages upon spring rape (at various stages of growth) flowered and set seed during the first year in 24% of the cases tried. Ungrafted cabbages (control) did not flower during the first year. The stage of growth and development of the scion at the time of grafting does not have a decisive effect upon flowering and fruiting. (Author)

Maysuryan, N. A.
BIOLOGICAL BASIS OF SORTING SEEDS ACCORDING TO SPECIFIC GRAVITY (Biologicheskye Osnovy Sortirovaniya Semyan po Udel'nomu Vesu). [1960] 72p. Trans. A-1191.
Order from LC or SLA mi$4.50, ph$12.30 60-23731

Trans. of Moskovskaya Sel'skokhozyaystvennaya Akademiya. Trudy (USSR) 1947, v. 37, p. 3-8, 88-114, 119-128.

Petrishcheva, P. A. and Saf'yanova, V. M.
STRUGGLE AGAINST BLACK FLY LARVAE (SIMULIIDAE) [K Voprosu o Bor'be s Lichinkami Moshek (Simuliidae)]. [1960] 5p. 4 refs.
Order from LC or SLA mi$1.80, ph$1.80 60-16683

Trans. of Zoologicheskiy Zhurnal (USSR) 1956, v. 35, no. 12, p. 1849-1852.

Treatment of submerged plant material with larvicides to destroy black fly larvae and pupae is proposed. A special apparatus, the "hydrobur," has been used to apply the larvicides with good results. The "hydrobur" is a hollow metal tube about 2 meters long. An ordinary atomizer is screwed on to one end. The other end is connected to a compressor. The larvicide is atomized under water at a pressure of 4 to 6 atmospheres.

Rogozhinskiy, B. I.
SEED DUSTING (Opudrivaniye Semyan). 5 Aug 60, 3p. Trans. A-1187.
Order from LC or SLA mi$1.80, ph$1.80 60-23713

Trans. of Zashchita Rastenii [ot Vrediteley i Bolezney] (USSR) 1960, v. 5, no. 5, p. 28.

ASTRONOMY

Astrophysics

Amenitskiy, N. A., Noskova, R. I., and Salomonovich, A. Ye.
RADIO IMAGE OF THE MOON IN THE 8-MILLIMETER RANGE. 25 July 60, 3p. 3 refs. JPRS: 5094.
Order from OTS $0.50 60-11990

Trans. of *Astronomicheskiy Zhurnal 'USSR) 1960, v. 37, no. 1, p. 185-186.

Ginzburg, V. L.
POSSIBILITY OF DETERMINING THE MAGNETIC FIELD INTENSITY IN THE OUTER SOLAR CORONA BY EXAMINING THE PROPAGATION OF THE POLARIZED RADIATION OF DISCRETE SOURCES. 27 Sep 60, 3p. 9 refs. JPRS: 3998.
Order from OTS $0.50 60-31800

Trans. of Izvestiya Vysshikh Uchebnykh Zavedeniy. Radiofizika (USSR) 1960, v. 3, no. 2, p. 341-342. An abstract trans. is available from LC or SLA mi$1.80, ph$1.80 as 60-23827, 9 Aug 60, 2p.

Gringauz, K. I., Kurt, V. G. and others.
IONIZED GAS AND HIGH-SPEED ELECTRONS IN THE VICINITY OF THE EARTH AND IN INTERPLANETARY SPACE. 18 Aug 60, 13p. 12 refs. JPRS: 5346.
Order from OTS $0.50 60-41212

Trans. of Akademiya Nauk SSSR. Doklady [1960] v. 132, no. 5, p. 1062-1065.

Current measurements in the 3-electrode traps (especially the "+15v" trap) in the Soviet cosmic rockets indicate that the magnitude, N_e, of the flux of the high-energy electrons ($E > 200$ ev) in the second radiation belt does not exceed 2×10^7 cm^{-2} sec^{-1}. (N_e is the hemispheric flux through 1 cm^2.) The counting rates observed by S. N. Vernov and A. Ye Chudakov et al. (Akad. Nauk SSSR Doklady 125: 304, 1959 (available in translation from OTS $0.50 as 59-21045); and 130: no. 3, 1960), and by J. Van Allen and L. A. Frank (Nature Feb. 14 and July 25, 1959) should be accounted for by much smaller fluxes of much harder electrons than were assumed. The negative currents of all traps (up to 10^{-9} amp) at altitudes between 50,000 and 70,000 km may be accounted for only by electron fluxes with energies above 200 ev and $N_e \approx 1 \times 10^8$ to 2×10^8 cm^{-2} sec^{-1}. This indicates the presence of a third (outermost) envelope of electrons of relatively low energies (with an insignificant number of electrons with energies above 100 kev). Electron fluxes as small as these cannot influence the potential of the body of the rocket, which is determined by the photoelectric effect caused by UV solar radiation and by the plasma currents. (See also 59-16755, 59-16763, 60-12549, 60-22009).

Krinov, Ye[vgeniy] L[eonidovich.
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Order from PP $12.00

Trans. of unidentified mono. [pub. Moscow, 1955].

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CONFERENCE ON THE PROBLEM OF SUN-TROPOSPHERE. 15 Sep 60, 4p. JPRS: 3917.
Order from OTS $0.50 60-31772

Trans. of *Akademiya Nauk SSSR. Izvestiya. Seriya Geologicheskaya, 1960 [v. 25] no. 3, p. 157-159.

BEHAVIORAL SCIENCES

Mechin, J.
HOW DO YOU RATE YOUR EMPLOYEES? (Comment Notezvous Votre Personnel?). [1960] [18]p. 2 refs.
Order from SLA mi$2.40, ph$3.30 60-18030

Trans. of Travail et Méthodes (France) 1956, Jul/Aug, p. 30-33.

BIOLOGICAL SCIENCES

Razumov, S. A.
V. I. LENIN AND THE SCIENCE OF BIOLOGY (V. I. Lenin i Biologicheskaya Nauka). 2 Sep 60, 20p. 12 refs. JPRS: 5473.
Order from OTS $0.75 60-41303

Trans. of Botanicheskiy Zhurnal (USSR) 1960, v. 45, no. 4, p. 472-479.

Sergeyev, V. M. and Kovanev, V. A.
SURGICAL SYMPOSIUM ON MITRAL COMMISSUROTOMY (Khirurgicheskiy Simpoziyum po Mitral'noy Komissurotomii). 25 Aug 60, 22p. JPRS: 5404.
Order from OTS $0.75 60-41253

Trans. of Akademiya Meditsinskikh Nauk SSSR. Vestnik, 1960, v. 15, no. 5, p. 75-81.

The symposium was held in Moscow in February 1960: 91 surgeons were among the 400 participants, who were called together to discuss the results of more than 3,500 mitral commissurotomy operations performed in the USSR. Topics of the symposium were: (1) methods, (2) operative approaches, (3) opening and handling of the auricular appendage of the heart, (4) intracardiac examination during the operation, (5) digital and instrumental techniques of expanding the mitral orifice, and (6) prevention and control of complications.

Anatomy and Physiology

Asratyan, Ye. A.
HUMORAL REGULATION IN DECORTICATE DOGS (K Kharacteristike Gumoralnoy Regulatsii Funktsii y Sobak s Dekortikatsirobannym Bolshim Mozgom). Aug 60 [8]p. RTS 1439.
Order from LC or SLA mi$1.80, ph$1.80 60-23624

Trans. of *Fiziologicheskiy Zhurnal SSSR, 1957, v. 43, no. 7, p. 651-656.

Data are surveyed showing that after decortication, the specific regulatory function of humoral factors in the higher animals is considerably greater than normal. In decorticate dogs, humoral agents are far more effective stimulators both of organs, systems, and of whole organisms, when applied to decorticate as compared with normal animals.

Kreps, Ye. M. and Verzh'inskaya, N. A.
BRAIN METABOLISM IN THE EVOLUTION OF VERTEBRATES. [1960] 12p. 21 refs.
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Trans. of Akad[emiya] Nauk SSSR. Izv[estiya]. Ser[iya] Biol[ogicheskaya] 1959 [v. 24] no. 6, p. 855-864. Another translation is available from OTS $0.50 as 60-31079, JPRS: 3047, 10 Mar 60, 15p.

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ON THE STUDY OF THE PROBLEM OF TONAL SELECTIVITY OF THE EAR. July 60, 22p. 22 refs.
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Trans. of Acad[emie des] Sci[ences, Paris]. C[omptes] R[endus] (France) 1960, v. 250 [no. 12] p. 2267-2268.

Spasokukotskiy, Yu.
ELEVEN THOUSAND PERSONS OVER 90 YEARS OF AGE. 24 Aug 60, 5p. JPRS: 3746.
Order from OTS $0.50 60-31717

Trans. of Znaniye-Sila (USSR) 1959, v. 34, no. 11, p. 15-16.

The aged persons in question all live in the Ukraine. Reference is made to a card index "in our institute" (institute not specified).

Yermakova, F. B.
CHANGES WITH AGE IN HEMOPOIETIC ORGANS OF MICE. 18 Aug 60, 6p. 14 refs. JPRS: 3734.
Order from OTS $0.50 60-31715

Trans. of Arkhiv Anatomi, Gistologii i Embriologii (USSR) 1960, v. 38, no. 5, p. 56-59.

Zotikova, I. N.
EFFECT OF THE NERVOUS SYSTEM ON SECRETION AND EJECTION OF MILK IN THE WHITE MOUSE (Vliyaniye Nervnoy Sistemy na Sekretsiyu i Vyvedeniye Moloka u Beloy Myshi). Aug 60 [10]p. 9 refs. RTS 1248.
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Trans. of [Akademiya Nauk SSSR]. Institut Fiziologii. Trudy, 1955, v. 4, p. 63-67.

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THE METABOLSIM OF UREIDOSUCCINIC ACID IN ANIMAL TISSUES IN VITRO AND IN VIVO. [1960] 11p. 13 refs
Order from LC or SLA mi$2.40, ph$3.30 60-18368

Trans. of *Biokhimiya (USSR) 1959, v. 24, no. 5, p. 866-871.

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THE EFFECT OF TEMPERATURE UPON THE ACTIVITY OF THE ACID AND ALKALI PHOSPHATASE IN THE BRAIN OF VERTEBRATES IN VITRO. [1960] 6p. 5 refs.
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BIOCHEMICAL SHIFTS IN SHOCK PRODUCED BY THE COMBINED EFFECT OF BURN TRAUMA AND TOTAL-BODY IRRADIATION. 15 Aug 60, 12p. 22 refs. JPRS: 2927.
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Trans. of Patolog[icheskaya] Fiziol[ogiya] i Eksper-[mental'naya] (USSR) 1960, v. 4, no. 1, p. 14-19.

Gorkin, V. Z.
SOME PROPERTIES OF THE MITOCHONDRIAL MONOAMINO OXIDASE OF THE RAT LIVER AND BRAIN. [1960] 11p. 23 refs.
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Trans. of *Biokh[imiya] (USSR) 1959, v. 24, no. 5, p. 826-832.

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A STUDY OF AMINO ACID TRANSFORMATION IN THE HOMOGENATES OF NERVOUS AND MUSCLE TISSUE WITH REFERENCE TO REAMINATION OF THE ADENYLIC SYSTEM. [1960] 12p. 25 refs.
Order from LC or SLA mi$2.40, ph$3.30 60-18370

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Manina, A. A.
DYNAMICS OF INCLUSION AND DISTRIBUTION OF RADIOACTIVE PHOSPHORUS P^{32} INTO THE TISSUES OF THE NERVOUS SYSTEM OF WHITE RATS. [1960] 9p. 18 refs.
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Miloslavskaya, L. I.
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Trans. of *Biokh[imiya] (USSR) 1958, v. 23 [no. 3] p. 347-350.

Nikulin, V. I.
THE RATE OF PROTEIN SYNTHESIS OF THE ORGANS AND TISSUES IN THE EARLY POST-HYPOTHERMIA PERIOD. [1960] 7p. 7 refs.
Order from LC or SLA mi$1.80, ph$1.80 60-18364

Trans. of Eksperimental'naya Khir[urgiya] (USSR) 1959 [v. 4] no. 2, p. 39-42.

Orel, L. I. and Samorodova-Bianki, G. B.
CONTENT OF CAROTENOIDS AND THE FERTILIZATION PROCESS IN GYNAECIA OF DIFFERENT AGE IN TOMATO AND POTATO PLANTS (Soderjaniye Karotinoidov i Protsess Oplodotvoreniya v Ginetseyakh Raznogo Vozrasta u Tomata i Kartofelya). [1960] [7]p. 10 refs.
Order from LC or SLA mi$1.80, ph$1.80 60-18031

Trans. of Akademiya Nauk SSSR. Doklady, 1956, v. 109, no. 2, p. 400-402.

Analysis of the stigmas and ovaries of various ages of the potato variety Kameraz conducted by us have shown that at the time most favorable for pollination (on the 2nd to 3rd day after emasculation of the yellow-green buds), the content of carotenoids in these organs increases, and after that is reduced, though negligibly. Biochemical and embryological analyses of the gynaecia of different ages of two varieties of tomato (Slivovidny and Grushevidny) have shown that the greatest quantity of carotenoids (on the 6th day after emasculation of the yellow-green buds) coincides with the most favorable conditions for germination of pollen and fertilization. (Author)

[Palladin] A. V., Poliakova, N. M. and Silitch, T. P.
COMPARATIVE INVESTIGATION OF BRAIN AND NERVE PROTEINS. [1960] 9p.
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Palladin, A. V., Belik, Ya V. and Krachko, L. S.
PENETRATION OF METHIONINE S^{35} INTO THE PROTEINS OF DIFFERENT STRUCTURAL ELEMENTS OF THE CELLS OF THE LARGE HEMISPHERE OF THE CEREBELLUM AND THE CEREBRUM. [1960] 6p. 7 refs.
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Trans. of A[kademiya] N[auk] SSSR. D[oklady] 1959, v. 127, no. 3, p. 702-705.

Sochivko, L. F., Dernovskaya-Zelentsova, G. L. and others.
NEW APPARATUS FOR DETERMINING BLOOD OXYGEN SATURATION: FLOW OXIMETER OF THE PO-01 TYPE. 15 Aug 60, 6p. JPRS: 2934.
Order from OTS $0.50 60-11831

Trans. of Patolog[icheskaya] Fiziol[ogiya] i Eksper[mental'naya] (USSR) 1960, v. 4, no. 1, p. 71-73.

Strachistkiy, K. I., Fufurova, K. F., and Gurvich, A. Ye.
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ON THE ACTIVITY OF DEHYDROGENASE SYSTEMS AND THE SH-GROUP CONTENT IN SOME DIVISIONS OF THE CAT CEREBRUM. [1960] 13p. 39 refs.
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Trans. of *Biokh[imiya] (USSR) 1959, v. 24, no. 3, p. 496-502.

Vladimirov, G. Ye., Ivanova, T. N. and others.
THE RATE OF TURNOVER OF CEREBRAL PHOSPHORUS COMPOUNDS IN PROFOUND HYPOTHERMIA. [1960] 14p. 19 refs.
Order from LC or SLA mi$2.40, ph$3.30 60-18367

Trans. of *Biokhimiya (USSR) 1959, v. 24, no. 5, p. 891-898.

Botany

Bartels, Fritz,
THE DEVELOPMENT OF THE SEEDLING OF EPILOBIUM HIRSUTUM. I. THE PROGRESS OF CELL DIVISION IN THE PROEMBRYO TO THE BEGINNING OF THE "HEART-SHAPED EMBRYO" (Zur Entwicklung der Keimpflanze von Epilobium Hirsutum. I. Die im Proembryo Ablaufenden Zellteilungen bis zum Beginnenden "Herzförmigen Embryo". [1960] [33]p. 26 refs.
Order from SLA mi$3.00, ph$6.30 60-18026

Trans. of Flora [oder Allgemeine Botanische Zeitung] (East Germany) 1956, v. 144, p. 105-120.

The sequence of cell divisions was determined from the zygote to the conclusion of the developmental phases of the embryo. At this time an embryo is present whose epidermis, which was initiated in the fifth series of cell divisions, is formed by the VIII Cell Generation over the shoot tip and at the root pole, while the rest of the epidermal cells belong to the X Cell Generation. The shoot tip is composed of four central cells of the VII Generation. Around this group of initials lie eight cells of the VIII Cell Generation. The central cells were divided in the second and third divisions (quadrant stage) and were separated in the sixth division from the primordia of the cortex and the cotyledons. The central cells function uniformly as a unit in the shoot tip although each of these four cells belongs to a separate cell series. The upper sides of the cotyledons are separated from the cortex of the shoot during the seventh division. In the later hypocotyl ($\frac{1}{2}$) a gradient of cell generations, from the third to the tenth, is found from the center to the epidermis. Four central cells of the V Generation lie at the root pole. This initial group is surrounded by eight cells of the VI Generation. Cells of the IV Generation form the suspensor. (Author)

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A vectorcardiographic investigation was made of 50 patients suffering from atherosclerosis of the coronary arteries and atherosclerotic cardiosclerosis with phenomena of chronic coronary insufficiency, and 50 patients with atherosclerosis of coronary arteries and a myocardial infarct (of one month to one-and-a-half-year duration from start of illness). In the disturbances of coronary circulation with a myocardial infarct formation the vectorcardiogram undergoes considerable changes. These changes develop also in a myocardial infarct complicated by a branch block of the bundle of Hiss, where the electrocardiographic changes may not be typical of an infarct. In these cases a vectorcardiographic examination makes possible a more correct diagnosis.

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Order from LC or SLA mi$1.80, ph$1.80 60-23720

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Leukocytic cells after slight damage produce stimulation of migration of other normal leukocytes; normal leukocytes inhibit to some extent migration of other normal leukocytes, killed leukocytes have no effect. The significance of this result is, that secondary accumulation of leukocytes with non-primary chemotactic instants may be explained by the interaction of damaged leukocytes. (Author's summary)

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THE EFFECT OF THIOPENTAL AND VERONAL ON ADRENALINE AND NORADRENALINE LEVEL IN THE BRAIN OF RATS. [1960] 3p.
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ELIMINATION BY DIURETICS OF THE RESERPINE EFFECT ON THE ADRENALS (Ausschaltung der Reserpinwirkung auf die Nebenniere durch Diuretika) tr. by M. B. L. 22 Apr 60, 3p. 8 refs.
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Trans. of *Farm[akologiya] i Toks[ikologiya] (USSR) 1959, v. 22, no. 2, p. 113-116.

Tuchmann-Duplessis, H. and Mercier-Parot, L.
INFLUENCE OF AN ANABOLIZER, METHANDROSTENOLONE ON THE HYPOPHYSO-GENITAL SYSTEM OF RATS (Influence d'un Anabolisant, le Méthandrostenolone, sur le Système Hypophysogénital du Rat) tr. by M. B. L. 27 Apr 60, 4p. 5 refs.
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Trans. of Acad[emie des] Sci[ences, Paris]. C[omptes] R[endus] (France) 1960, v. 250 [no. 11] p. 2070-2072.

Methandrostenolone inhibits the gonadotropic activity of the hypophysis slightly, its androgenic potency seems to be about 40 to 50 times less than that of 17-α-methyltestosterone. Besides it possesses a mild progestational activity.

Yatsentyuk, M. N.
CERTAIN PRELIMINARY DATA OF THE CLINICAL TESTING OF PROTEIN BLOOD SUBSTITUTE BK-8 (Nekotoryye Predvaritel'nyye Dannyye Klincheskogo Ispytaniya Belkovogo Krovozamenitelya BK-8). 21 Aug 60, 8p. JPRS: 5369.
Order from OTS $0.50 60-41229

Trans. of Novyy Khirurgicheskiy Arkhiv [Ukraynskoy SSR] 1960, no. 2(224) p. 64-68.

The literature on experimental work is reviewed, and clinical experience is reported. BK-8 is a new protein blood substitute obtained from the blood serum of cattle. 590 transfusions were administered to 240 patients (in preparation for surgery, parenteral nutrition, stimulation of indolent granulating wounds etc.). Reactions were manifested in 3.2% of the cases (e.g., rise in temperature, edema, headache), occurring most frequently in patients with malignant neoplasms. Use of BK-8 is highly recommended for wide clinical use.

Bagramyan, Ye. R.
THE EFFECT OF IONIZING RADIATIONS ON THE ADRENOCORTICOTROPHIC ACTIVITY OF THE PERIPHERAL BLOOD OF RATS (Vliyaniye Ioniziruyushchey Radiatsii na Adrenokortikotropnuyu Aktivnost' Perifericheskoy Krovi Krys). 9 Sep 60, 10p. 14 refs. JPRS: 5466.
Order from OTS $0.50 60-41296

Trans of Problemy Endokrinologii i Gormonoterapii (USSR) 1960, v. 6, no. 3, p. 27-31.

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THE ACTION OF X-RAYS ON THE METABOLISM OF ASCORBIC ACID, [1960] 2p.
Order from ATS $5.00 ATS-39M431

Trans. of Soc[ietà] Ital[iana di] Biol[ogia] Sper[imentale]. Boll[ettino] 1955, v. 31, no. 3/4, p. 293-295.

Jaques, R. and Meier, R.
RADIATION PROTECTION ACTION OF APRESOLINE AND C 5864-Su (2-OCTAHYDRO-1-AZOCYNIL-ETHYL-GUANIDINE) (Über eine Strahlenschutzwirkung von Apresolin und C. 5864-Su (2-Octahydro-1-azocynil-äthyl-guanidin)). [1960] 7p. 17 refs.
Order from SLA mi$1.80, ph$1.80 60-18180

Trans. of Experientia (Switzerland) 1960, v. 16 [no. 2] p. 75-76.

Mice exposed to a lethal total-body x-irradiation were partly protected by comparatively small doses of 1-hydrazinophthalazine and even smaller ones of [2-(octahydro-1-azocinyl)-ethyl] -guanidine. The doses affording 30-day survival in 30 to 40 per cent of the mice were about 1/20 - 1/50 of the respective acute LD_{90-100} for non-irradiated mice.

Kirsanova, V. A. and Gurevich-Usyskina, Yu. S.
INCORPORATION OF FORMATE-C^{14} INTO NUCLEOPROTEIDS AND ALBUMINS OF EXPERIMENTAL TUMORS. 7 Sep 60, 8p. 8 refs. JPRS: 3851.
Order from OTS $0.50 60-31742

Trans. of Voprosy Meditsinskoy Khimii (USSR) 1960, v. 6, no. 3, p. 254-259.

In ascites cells of Ehrlich and of Crocker sarcoma a labile substance (or group of substances) was discovered, apparently of albumin nature, actively incorporating formate-C^{14}, readily hydrolyzed in alkali in the cold and more stable to perchloric acid. In experiments in vitro with ascites cells of Ehrlich and of Crocker sarcoma the specific activity of the hydrolysate of this substance was 6 to 25 times higher than that of RNA and in experiments in vivo, 2 to 3 times higher.

Larina, M. A.
THE CONTENT OF ADRENOCORTICOTROPIC HORMONE (ACTH) IN THE ADENOHYPOPHYSES OF CONTROL AND IRRADIATED RATS (Soderzhaniye Adrenokortikotropnogo Gormona (AKTG) v Adenogipofizakh Kontrol'nykh i Obluchennykh Krys). 9 Sep 60, 9p. 19 refs. JPRS: 5464.
Order from OTS $0.50 60-41294

Trans. of Problemy Endokrinologii i Gormonoterapii (USSR) 1960, v. 6, no. 3, p. 18-21.

Lebedeva, G. A.
CHARACTERISTICS OF THE REACTION OF THE GASTROINTESTINAL TRACT TO CHEMICAL STIMULATION UNDER CONDITIONS OF INJURY OF THE ORGANISM DUE TO RADIOACTIVE STRONTIUM. 7 Aug 60, 12p. 24 refs. JPRS: 5194.
Order from OTS $0.50 60-41089

Trans. of Arkhiv Patologii (USSR) 1960, v. 22, no. 4, p. 21-28.

Leshchinskiy, A. F. and Borisenko, A. N.
EFFECT OF VITAMIN B_1 ON THE ORGANISM OF ANIMALS SUBJECTED TO THE ACTION OF IONIZING RADIATION. 22 Aug 60, 7p. (2 figs. omitted) 16 refs. JPRS: 5327.
Order from OTS $0.50 60-41191

Trans. of *Farmakologiya i Toksikologiya (USSR) 1960, v. 23, no. 2, p. 169-173.

Makarchenko, O. F., Sirotina, M. F., and Zlatin, R. S.
CHANGES IN THE MORPHOLOGICAL COMPOSITION OF THE PERIPHERAL BLOOD OF DOGS OF VARIOUS HIGHER NERVOUS ACTIVITY TYPES UNDER THE INFLUENCE OF CHRONIC IRRADIATION WITH SMALL DOSES OF GAMMA RAYS (Co^{60}). 27 July 60, 10p. 13 refs. JPRS: 2936.
Order from OTS $0.50 60-11833

Trans. of Fiziologichnyy Zhurnal (USSR) 1959, v. 5, no. 6, p. 769-773.

Rayeva, N. V., Bicheykina, N. I. and others.
AUREOMYCIN IN THE COMPLEX THERAPY OF ACUTE RADIATION SICKNESS IN DOGS. 22 Aug 60, 2p. JPRS: 5328.
Order from OTS $0.50 60-41192

Trans. of *Farmakologiya i Toksikologiya (USSR) 1960, v. 23, no. 2, p. 173-174.

Revis, V. A.
FREE HOMOPLASTIC TRANSPLANTATION OF BONE MARROW AS A THERAPEUTIC AGENT IN ACUTE RADIATION SICKNESS. 31 Aug 60, 13p. 22 refs. JPRS: 5380.
Order from OTS $0.50 60-41239

Trans. of Vestnik Rentgenologii i Radiologii (USSR) 1960, v. 35, no. 2, p. 44-51.

Rabbits subjected to doses of 700-800 r and 1100 r respectively were given bone marrow transplants. Of the 13 control animals, only 3 survived; of the 34 rabbits which received the transplants, only 3 (of the 1100 r series) died.

Rokhlin, D. G.
EDUCATION, SPECIALIZATION AND ADVANCED TRAINING IN THE FIELDS OF ROENTGENOLOGY AND RADIOLOGY ACCORDING TO THE DATA OF THE NINTH INTERNATIONAL CONGRESS ON RADIOLOGY AND ACCORDING TO CERTAIN NEW PUBLICATIONS. 31 Aug 60, 4p. JPRS: 5382.
Order from OTS $0.50 60-41241

Trans. of Vestnik Rentgenologii i Radiologii (USSR) 1960, v. 35, no. 2, p. 86-87.

Sbitneva, M. F.
EXPERIENCE IN THE APPLICATION OF MYELOCYTOTOXIC SERUM IN RADIATION SICKNESS. 15 Aug 60, 10p. 11 refs. JPRS: 2932.
Order from OTS $0.50 60-11829

Trans. of Patolog[icheskaya] Fiziol[ogiya] i Eksper[mental'naya] (USSR) 1960, v. 4, no. 1, p. 39-44.

Experimental work with dogs is described, in which the serum (a stimulant of hematopoiesis) was applied. The serum was prepared by means of immunization of rabbits with dog bone marrow.

Tret'yakova, K. A.
CONTENT OF CHOLESTEROL AND ASCORBIC ACID IN RAT ADRENALS AFTER EXPOSURE TO IONIZING RADIATION. [1960] 4p.
Order from ATS $6.50 ATS-38M43R

Trans. of Problemy Endokrinologii i Gormonoterapii (USSR) 1957, v. 3, no. 3, p. 72-74.

Zaytseva, K. K.
ON THE MORPHOLOGICAL CHARACTERISTICS OF THE TAKEABILITY OF FREE SKIN TRANSPLANTS IN ACUTE RADIATION SICKNESS. 22 Aug 60, 11p. 5 refs. JPRS: 5316.
Order from OTS $0.50 60-41177

Trans. of Vestnik Khirurgii (USSR) [1960] v. 84, no. 3, p. 97-102.

Zoology

INTERNATIONAL GEOLOGY REVIEW, VOL. 2, NO. 1, Jan 60, 92p.
Order from AGI $5.00, $55.00/year

Trans. of Ti-li Hsüeh-pao (Chinese People's Republic) 1959 [v. 25] no. 2, p. 229-234, Chemie der Erde (East Germany) 1958, v. 19, no. 3, p. 207-229; Priroda

(USSR) 1957 [v. 46] no. 5, p. 11-20; Sovetskaya Geologiya (USSR) 1959, no. 5, p. 119-129 and 131-141; Brennstoff-Chemie (West Germany) 1955, v. 36, no. no. 19/20 [p. 304-314]; Chishitsugaku Zasshi (Japan) 1958, v. 64, no. 753, p. 359-378; and mono. Opyt Primeneniya Gidrokhimicheskoy Syemki na Mednomolibdenovykh Mestorozhdeniyakh Armyanskoy SSR, Yerevan, 1958, pt. 5, p. 54-89.

Contents:
A Preliminary Study of the Magnetite Deposit at Chien-P'ing, Hopei Province, by Ting P'ei-chen
The Tunguska Meteorite, by Ye. L. Krinov
An Experiment in the Application of Hydrochemical Survey to Copper and Molybdenum Deposits in the Armenian SSR, by N. I. Dolukhanova
Sources of Energy in Geochemical Processes, by N. V. Belov and V. I. Lebedev
Experimental Data on Sorption of Copper by Various Minerals and Organic Sorbing Agents, by M. F. Kashirtseva
Ground Water in Paleozoic Formations of the Northern Shilovo Vladimir Depression, by G. N. Assovskiy
Results of Coke Microscopy with the Help of Different Methods of Research, by M. Th. Mackowsky
Notes of International Scientific Meetings

INTERNATIONAL GEOLOGY REVIEW, VOL. 2, NO. 2. Feb 60, 1v.
Order from AGI $5.00, $55.00/year

Trans. of Sovetskaya Geologiya (USSR) 1959, no. 5, p. 66-72 and 96-108; Moskovskoye Obshchestvo Ispytateley Prirody. Byulleten'. Otdel Geologicheskiy (USSR) 1959, v. 64(34), no. 1, p. 61-71, 93-107 and 109-116; Akademiya Nauk SSSR. Doklady, 1952, v. 82, no. 5, p. 765-768 and v. 87, no. 6, p. 957-960; Mineralogicheskiy Sbornik (USSR) 1951, v. 5, p. 211-218; *Wiadomosci Hutnicze (Poland) 1958, v. 14, no. 6, p. 182-185; Akademiya Nauk SSSR. Izvestiya. Seriya Geologicheskaya, 1956 [v. 21] no. 9, p. 44-50; Novosti Neftyanoy Tekhniki: Geologiya (USSR) 1958, page (?); Zeitschrift für Angewandte Geologie (East Germany) 1956 [v. 2] no. 1, p. 39-44; and Soveshchaniya po Eksper. i Tekhn. Mineral. i Petrogr. (no. 5) Trudy, 1958, p. 230-236.
A translation of this article is also available separately elsewhere.

Consists of articles by L. N. Botvinkina, K. M. Feodotyev, Ludwik Gielicz, L. T. Klimova, A. G. Komarov, V. P. Kostyuk, G. G. Lemmleyn, V. B. Olenin, V. A. Ozertsova, M. Ya. Rudkevich, S. V. Semikhatova, and O. S. Vyalov and review section.

Konovalov, I. M.
AN UNSUCCESSFUL EXPERIMENT IN ACCLIMATIZING GREY MULLETS. 27 Sep 60, 4p. 3 refs.
JPRS: 3981.
Order from OTS $0.50 60-31793

Trans. of Rybnoye Khozyaystvo (USSR) 1959, v. 35, no. 3, p. 20-22.

Tomilin, A. G.
ON THE BEHAVIOR AND SOUND COMMUNICATION OF CETACEANS (O Povedenii i Zvukovoy Signalizatsii Kitoobraznykh) tr. by M. Slessers. 1960 [45]p. 67 refs. Trans-99.
Order from LC or SLA mi$3.30, ph$7.80 60-23775

Trans. of Z[kademiya] N[auk] SSSR. Institut Okeanologii. Trudy, 1955, v. 18, p. 28-47.

Information is reviewed that was obtained from the literature references, about half of which are Soviet.

CHEMISTRY

BULLETIN OF THE ACADEMY OF SCIENCES OF THE USSR. DIVISION OF CHEMICAL SCIENCE, 1959, NO. 11, P. 1791-1971. 1960, 1v.
Order from CB $5.00, $45.00/year

Trans. of Akademiya Nauk SSSR. Otdeleniye Khimicheskikh Nauk. Izvestiya, 1959, no. 11, p. 1875-[2062].

REFERATIVNYY ZHURNAL. KHIMIYA (USSR) 1960, NO. 5, Abstracts 16536-20758 (Soviet Abstracts. Chemistry). 29 Aug 60, 1v. JPRS: 5171.
Order from OTS $4.25 60-41066

Complete translations of those entries which were originally published in the Sino-Soviet bloc and in Yugoslavia, excluding the USSR.

Wiberg, Egon and Schrauzer, Gerhard.
PROCESS FOR THE PREPARATION OF HIGHLY COMPLEX HYDRIDES. 18 Aug 60, 10p. 3 refs.
Order from LC or SLA mi$1.80, ph$1.80 60-18000

Trans. of German Patent 1,006,553, filed 13 July 57, pub. 24 Mar 60, by Metallgesellschaft Aktiengesellschaft Frankfurt/Main.

A process for the preparation of new highly complex hydrides, $aM_s(M_fH_4)_n - bM_fH_3$, is described in which M_s means a metal of the first to the third principal groups of the periodic system with the valence n, M_f elements of the third principal group of the periodic system, which can be mutually alike or varied, a either = 1 and b a whole number from 2 to 16, or a = 2 and b = 1. The process is characterized in that $aM_s(M_fH_4)_n$ and bM_fH_s are added together under oxygen in the absence of moisture.

Analytical Chemistry

Dewald, M. and Schmidt, H.
ANALYTICAL DETERMINATION OF VARIOUS PHOSPHATES IN THE PRESENCE OF EACH OTHER. II. DETERMINATION OF PYROPHOSPHATE AND HIGH POLYMERIC METAPHOSPHATE IN THE PRESENCE OF EACH OTHER. [1960] [9]p. 8 refs.
Order from SLA mi$1.80, ph$1.80 60-18062

Trans. of Zeit[schrift] für Analytische Chemie (West Germany) 1951, v. 134 [no. 2] p. 86-95.

Fedoseyev, P. N. and Chernysheva, T. E.
MICROMETHODS FOR QUANTITATIVE DETERMINATION OF CARBON, HYDROGEN, AND NITROGEN IN ORGANIC SUBSTANCES IN SMALL TUBES UNDER VACUUM. [1960] 6p.
Order from ATS $8.50 ATS-98M43R

Trans. of Izvest[iya] Vysshikh Ucheb[niy] Zavedeniy. Khim[iya] i Khim[icheskaya] Tekhnol[ogiya] (USSR) 1959, v. 2, no. 6, p. 899-903.

Kapfenberger, W.
DETERMINATION OF FLUORINE AS LEAD CHLOROFLUORIDE (PbClF). [1960] [13]p. 15 refs.
Order from SLA mi$2.40, ph$3.30 60-18074

Trans. of Aluminium (Germany) 1942, v. 24, p. 428-432.

Klimova, V. A. and Mukhina, G. K.
SIMULTANEOUS DETERMINATION OF CARBON HYDROGEN, SULFUR, AND HALOGENS. [1960] 4p.
Order from ATS $5.65 ATS-97M43R

Trans. of *Akad[emiya] Nauk SSSR. Otdel[eniye] Khim-[icheskikh] Nauk. Izvest[iya] 1959, no. 12, p. 2248-2250.

Müller, A.
IMPURITIES IN ACETYLENE CARBIDE. [1960] 8p. [1 formula omitted].
Order from SLA mi$1.80, ph$1.80 60-18055

Trans. of Angew[andte] Chemie (West Germany) 1950, v. 62, p. 166-167.

Veltman, G. H.
RAPID DETERMINATION OF ALL SOLUBLE FORMS AND CONCENTRATIONS OF PHOSPHORIC ACID IN FERTILIZERS AND RAW PHOSPHATES WITH THE AID OF PHOTOELECTRIC COLORIMETER. [1960] [12]p. 5 refs.
Order from SLA mi$1.80, ph$1.80 60-18061

Trans. of Zeitschrift für Analytische Chemie (West Germany) 1952, v. 135 [no. 5] p. 340-349.

Organic Chemistry

POLYMERIZATION OF ACETYLENIC COMPOUNDS. [1960] 5p. 1 ref.
Order from LC or SLA mi$1.80, ph$1.80 60-18107

Trans. of French patent 1,161,299, cl. 8, gr. 14, international cl. C 08f, appl. 5 Nov 56, granted 17 May 58, pub. 25 Aug 58, priority in Gt. Brit. 8 Nov 56 and 19 Oct 56, by Imperial Chemical Industries Ltd.

THERMOPLASTIC MATERIALS BASED ON MIXTURES OF ISOTACTIC POLYPROPYLENE AND POLYISOBUTYLENE. July/Aug 60, 3p.
Order from CTS(Chem) $3.00, subsequent copies $0.50/ea. CTS(Chem)-158

Trans. of Italian Patent 583,501, 18 June 57, by the Montecatini Company.

Andryanov, K. A. Parbuzina, I. L., and Sokolov, N. N.
POLYMERS BASED ON BIS(n-HYDROXYPHENYL)PROPANE AND PHTHALIC ACIDS. [1960] [7]p. 7 refs.
Order from LC or SLA mi$1.80, ph$1.80 60-18108

Trans. of Vysokomolekulyarnyye Soyedineniya (USSR) 1960, v. 2 [no. 4] p. 518-520.

There has been investigated the condensation of bis(p-hydroxyphenyl)propane with phthalic and isophthalic acids and it has been found that they react as high temperature with the formation of polymers. The reaction between bis(p-hydroxyphenyl)propane and dimethyl terephthalate in the presence of lead oxide as catalyst proceeds with separation of methanol and leads to the formation of a polymer. The melting point of the polymers obtained depends on the structure of the phthalic acids. (Author)

Baturo, V. A. and Rakovskiy, V. Ye.
CHEMISTRY OF PEAT-FORMING MATERIALS. III. SYNTHESIS OF HUMIC ACIDS FROM NATURAL PRODUCTS (Khimiya Torfoobrazovateley. III. Sintez Guminovykh Kislot iz Prirodnykh Produktov). Aug 60 [13]p. 18 refs. RTS 1401.
Order from LC or SLA mi$2.40, ph$3.30 60-23619

Trans. of A[kademiya] N[avuk] BSSR, Minsk. Instytut Torfa. Trudy, 1957, v. 6, p. 68-79.

Precipitates resumbling humic acids were formed when solutions of readily hydrolysed material were heated. Substances resembling humic acids were also formed on heating fulvic acid solutions. Experimental confirmation was obtained for the sequence: readily hydrolysed material→humic and fulvic acids→humic acids. (See also 60-19881)

Bocek, V.
HETEROGENEOUS CATALYSTS FOR THE POLYMERIZATION OF α-OLEFINS. July/Aug 60, 7p. 8 refs.
Order from CTS(Chem) $5.60, subsequent copies $1.00/ea. CTS(Chem)-153

Trans. from International Symposium on Macromolecular Chemistry [held at] Moscow, 14-18 June 60. Papers.

Chaltykyan, O. A.
PROPERTIES OF CUPROUS COMPLEXES [O Svoystvakh Kupro-kompleksov]. [1960] [17]p. 40 refs.
Order from LC or SLA mi$2.40, ph$3.30 60-18073

Trans. of Zhurnal Obshchey Khimii (USSR) 1948, v. 18 [no. 9] p. 1626-1638.
Also available from SLA as RT-3874.

Results are reviewed of theoretical studies of the composition of cuprous complexes in solutions.

Gaümann, T. and Günthard, Hs. H.
INFRARED SPECTRA OF ω-AMINO ACIDS. [1960] [8]p. 12 refs.
Order from SLA mi$1.80, ph$1.80 60-18080

Trans. of Helvetica Chimica Acta (Switzerland) 1952, v. 35 [no. 5] p. 53-60.

Jenne, H. and Becke-Goehring, M.
BIS-DIALKYLAMINE POLYSULFANES. [1960] 7p. 10 refs.
Order from SLA mi$1.80, ph$1.80 60-18051

Trans. of Chemische Berichte (West Germany) 1958, v. 91, p. 1950-1955.

A convenient process is described for the preparation of bis-dialkylamino-tetrasulfanes and the corresponding trisulfanes.

Kargin, V. A., Usmanov, Kh. U. and Aykhodzhayev, B. I.
FORMATION OF GRAFT POLYMERS BY THE OZONATION OF CELLULOSE (Polucheniye Privitikh Kopolymerov Putem Ozonirovaniya Tsellulozy).
Aug 60 [6]p. 5 refs. RTS 1487.
Order from LC or SLA mi$1.80, ph$1.80 60-23810

Trans. of Vysokomolekulyarnyye Soyedineniya (USSR) 1959, v. 1, no. 1, p. 149-151.
Another translation is available from LC or SLA mi$1.80, ph$1.80 as 60-14252, 8 Dec 59 [6]p.

The reaction of cellulose with ozone and the subsequent polymerization with acrylonitrile and styrene were studied. It was shown that, in the polymerization of acrylonitrile on ozonized cotton fiber, there is formed a cellulose-acrylonitrile graft polymer, insoluble in cuprammonium solution and in DMF. In the polymerization of styrene on viscose cord, there is formed a graft polymer with an increased adhesion to rubber. (Author)

Konschak, M.
CHEMICAL AND PHYSICAL PROPERTIES OF ACETYLENE WITH REGARD TO ITS UTILIZATION. [1960] 13p. 7 refs.
Order from SLA mi$2.40, ph$3.30 60-18006

Trans. of Brennstoff-Wärme-Kraft (West Germany) 1952, v. 4, p. 62-66.

After discussing the production and chemical and physical properties of acetylene, the causes and course of explosions and detonations of mixtures of acetylene with air, oxygen and other gases, as well as of pure acetylene, are described and the safety measures for acetylene generators and cylinders are explained. (Author)

Korshak, V. V., Frunze, T. M., and others.
HETEROCHAIN POLYAMIDES. XXIV. PREPARATION OF MIXED POLYAMIDES AT THE PHASE INTERFACE. [1960] 7p.
Order from ATS $11.00 ATS-16M43R

Trans. of Vysokomolekulyarnyye Soyedineniya (USSR) 1960, v. 2, no. 5, p. 673-678.

Kruzhalov, B. D., Khcheyan, Kh. Ye. and Pavlichev, A. F.
ISOMERIZATION OF ISOPHTHALIC ACID TO TEREPHTHALIC. [1960] 5p.
Order from ATS $8.50 ATS-87M43R

Trans. of Khim[icheskaya] Prom[yshlennost'] (USSR) 1959, no. 4, p. 288-290.

Kut'in, A. M., Farberov, M. I. and others.
SYNTHESIS OF ISOPRENE AND OF PIPERYLENE ON BASIS OF n-BUTYLENES AND OF FORMALDEHYDE, III. [1960] 9p. 9 refs.
Order from LC or SLA mi$1.80, ph$1.80 60-18066

Trans. of *Zhurnal Prikladnoy Khimii (USSR) 1959, v. 32 [no. 5] p. 2782-2787.

A simultaneous synthesis of isoprene and of piperylene can be realized on basis of a catalytic splitting of the alkyldioxanes produced by reaction of n-butylenes with formaldehyde in a ratio corresponding to that of butene-1 and of butene-2 in the fraction of n-butylenes. The process gives a 65 mole % yield of dienes with respect to the decomposed alkyldioxanes. The main side reactions are the cracking of alkyldioxanes forming the n-butylenes (16-19 mole %) and the formation of aldehyde 2-methylbutanal (9-10%). The latter can be reduced to the respective alcohol. (Author)

Natta, G., Danusso, F., and others.
STEREOSPECIFIC POLYMERIZATION OF VINYL-AROMATIC MONOMERS. III. VINYL DERIVATIVES OF POLYNUCLEAR AROMATIC HYDROCARBONS. [1960] 8p. 13 refs.
Order from SLA mi$1.80, ph$1.80 60-18097

Trans. of la Chimica e l'Industria (Italy) 1959, v. 41 [no. 10] p. 964-967.
Another translation is available from SLA mi$2.40, ph$3.30, 60-14125 [1960] [11]p.

The anionic co-ordinated polymerization with AlR_3 and Ti chloride catalysts, may be applied to various vinyl monomers with polynuclear aromatic substituents. In spite of the hindrance of these substituents, a remarkable reactivity is sometimes observed. Highly crystallizable isotactic polymers have been obtained from 1-vinylnaphthalene. Polymers obtained from other monomers were not crystalline, notwithstanding the polymerization conditions were typical of a stereospecific reaction. The reactivity of the examined monomers and the crystallizability of the polymers which can be obtained depend on the substituent structure according to relationships already observed for the alkyl- or halo-substituted styrenes. (Author) (See also 60-10599, 60-14211)

Novikov, S. S., Korsakova, I. S., and Babiyevskiy, K. K.
SYNTHESIS OF 1,4-DINITRO-1,3-BUTADIENE. [1960] 3p.
Order from ATS $7.00 ATS-10M44R

Trans. of *Akad[emiya] Nauk SSSR. Otdel[eniye] Khim[icheskikh] Nauk. Izvest[iya] 1960, no. 5, p. 944-945.

Panchenkov, G. M. and Baranov, V. Ya.
KINETICS OF THE THERMAL CRACKING OF HYDROCARBONS. [1960] 6p. 6 refs.
Order from LC or SLA mi$1.80, ph$1.80 60-18037

Trans. of Akad[emiya] Nauk SSSR. Dokl[ady] 1959, v. 126, no. 3, p. 608-611.

Pier, M.
POLYCYCLIC AROMATICS FROM HYDROGENATION PRODUCTS, tr. by W. W. Fowkes. [1960].
Available on loan from Dept. of the Interior Library

Trans. of German mono. Reichsamt für Wirtschaftsausbau. Arbeitsgemeinschaft: Teerverwertung. 1. Tagung, 1940, pruf. no. 37, p. 67-76 (PB 52,005).

Pietra, Silvio.
FURTHER EXAMPLES OF REDUCTIONS WITH HYDRAZINE AND CATALYSTS. [1960] 10p. 9 refs.
Order from SLA mi$1.80, ph$1.80 60-18056

Trans. of Annali di Chimica (Italy) 1957, v. 47, p. 410-414.

The action of hydrazine on some nitro derivatives, on phenyl azide on phenyl diazonium chloride and on some nitroso derivatives in the presence of metallic catalysts has been studied. All the nitrogen derivatives examined, with the exception of p-amino azobenzene, which on reduction always yields p-phenylene diamine and aniline, are reduced by hydrazine in different ways according to the kind of catalyst used: with ruthenium on carbon the hydrazo derivative is obtained quantitatively; with palladium on carbon the two amines are obtained quantitatively. The other compounds (phenyl azide, C-nitroso derivatives, etc.) on reduction with hydrazine and catalysts have yielded the corresponding amines. (Author)

Potapov, V. K., Vasilev, V. G., and Tunitskiy, N. N.
IONIZATION AND DISSOCIATION OF N-OCTANE AND OF N-NONANE MOLECULES THROUGH MONOENERGETIC ELECTRONS. [1960] 5p. 9 refs.
Order from LC or SLA mi$1.80, ph$1.80 60-18072

Trans. of Akademiya Nauk SSSR. Doklady, 1959, v. 126 [no. 3] p. 612-615.

Rakova, G. V., Korotkov, A. A., and Li, Tszun-Chan.
INVESTIGATION ON THE COPOLYMERIZATION OF ISOPRENE WITH PIPERYLENE AND WITH DIISOPROPENYL. [1960] 6p. 4 refs.
Order from LC or SLA mi$1.80, ph$1.80 60-18039

Trans. of Akad[emiya] Nauk SSSR. Dokl[ady] 1959, v. 126 [no. 3] p. 582-585.

Simonova, N. I.
THE PREPARATION OF UNSATURATED CELLULOSE ETHERS (K Voprosu Polucheniya Nepredel'nykh Yefirov Tsellyulozy). Aug 60 [8]p. 8 refs. RTS 1335.
Order from LC or SLA mi$1.80, ph$1.80 60-23671

Trans. of Leningrad[skiy] Inst[itut] Kinoinzhenerov. Trudy (USSR) 1955, v. 3, p. 244-247.

It was proved possible to prepare from 1,3-dichlorbutene-2 and alkali cellulose, unsaturated cellulose ethers with a degree of conversion of from 1.3 to 3 for every glucose group, and which are easily soluble in organic solvents. The fraction, resembling a triether of cellulose, forms a strong film on glass after the evaporation of the solvent (acetone, ether or benzene). (Author)

Solomon, O. F., Dimonie, M. and others.
ON THE POLYMERIZATION OF VINYLCARBAZOLE IN THE PRESENCE OF BUTYLLITHIUM AND TITANIUM TETRACHLORIDE TYPE CATALYSTS.
July/Aug 60, 8p. 5 refs.
Order from CTS(Chem) $6.40, subsequent copies $1.00/ea. CTS(Chem)-151

Trans. from International Symposium on Macromolecular Chemistry [held at] Moscow, 14-18 June 60. Paper[s].

Timofeyeva, Ye. A., Shuykin, N. I. and others.
DEHYDROGENATION OF HYDROCARBONS ON CHROMIA-ALUMINA AND CHROMIA-ALUMINA-POTASSIA CATALYSTS PREPARED BY DIFFERENT METHODS. [1960] 8p.
Order from ATS $8.00 ATS-12M44R

Trans. of *Akad[emiya] Nauk SSSR. Otdel[eniye] Khim[icheskikh] Nauk. Izvest[iya] 1960, no. 2, p. 292-299.

Usmanov, Kh. U., Aykhodzhayev, B. I., and Azizov, U.
MODIFICATION OF THE PROPERTIES OF CELLULOSE BY GRAFTING. [1960] 4p.
Order from ATS $8.00 ATS-54M43R

Trans. of Inter[national] Symposium on Macromolecular Chem[istry] [held at] Moscow, 14-18 June 60. [Proceedings] sect. 3, p. 344-348.

Vogel, O. F. L.
CRYSTALLINE POLYALDEHYDES. [1960] 16p. 3 refs.
Order from LC or SLA mi$2.40, ph$3.30 60-18104

Trans. of Belgian patent 580,553 (Priority: U. S. 18 Oct 58) by E. I. Du Pont de Nemours and Company.

Wiberg, E. and Krürke, U.
THE PREPARATION OF BOROSILICONES.
25 Feb 60 [3]p.
Order from SLA mi$1.80, ph$1.80 60-16819

Trans. of Angew[andte] Chem[ie] (West Germany) 1954, v. 66 [no. 12] p. 339-340.

Yakovenko, G. Z.
ALL-UNION CONFERENCE OF INSTITUTIONS OF HIGHER LEARNING ON THE CHEMISTRY OF FURAN COMPOUNDS (NO. 1). 18 Aug 60, 3p. JPRS: 3729.
Order from OTS $0.50 60-31687

Trans. of Gidroliznaya i Lesokhimicheskaya Promyshlennost' (USSR) 1960 [v. 13] no. 1, p. 30.

Yel'kind, L. B. and Rakovskiy, V. Ye.
METHODS OF SEPARATION OF PHENOLS, BASES AND HYDROCARBONS (Metody Razdeleniya Fenolov, Osnovanii i Uglevodorodov). Aug 60 [21]p. 8 refs. RTS 1402.
Order from LC or SLA mi$2.70, ph$4.80 60-23620

Trans. of A[kademiya] N[avuk] BSSR [Minsk]. Instytut Torfa. Trudy, 1957, v. 6, p. 274-290.

Experiments showed that superheated steam blowing of phenates in a batch apparatus improves the purification efficiency in comparison with wet steam blowing (100°C). However, the content of impurities is 3.5% in the undistilled and 1.25% in the distilled phenols. A sulphuric acid wash (or a caustic soda wash) of the acid oils at the instant of distillation, with superheated steam entrainment of impurities, yielded phenols containing 0.3 to 0.5% of impurities and 0.003 to 0.14% nitrogen (in the distilled phenols). Extraction of impurities from phenates with benzene (from the same oils) is equivalent to superheated steam blowing in effectiveness. The distilled phenols contain 0.32 to 0.55% of impurities and 0.05 to 0.14% of nitrogen. Methods of refining of peat phenols (obtained from phenates prepared with 13.5% NaOH) were examined. Resinification resulted from high-temperature steam blowing of concentrated phenates in a periodic process. Continuous blow-off of impurities from phenates isolated with the aid of 25% caustic alkali gave phenols containing 0.6% of impurities. The theory that pyridine-phenoxide complexes undergo thermal dissociation during distillation is supported by the fact that the purification effect of sulphuric acid washing of the acid oils is equal to that of dephenolation in the instant of distillation.

Zhonen, R.
THE STEREOCHEMICAL ASPECT OF THE HYDROGEN BOND (Vodorodnaya Svyaz' i yeye Stereokhimicheskiy Aspekt). Aug 60 [12]p. 46 refs. RTS 1489.
Order from LC or SLA mi$2.40, ph$3.30 60-23572

Trans. of Uspekhi Khimii (USSR) 1959, v. 28, no. 5, p. 605-614 (originally pub. in Chimia (Switzerland) 1957, v. 11, p. 71-76).

A survey.

Physical Chemistry

Bakuto, I. A.
ON THE ELECTRO-EROSION SERIES OF B. R. AND N. I. LAZARENKO FROM THE POINT OF VIEW OF THE LENZ-JOULE EFFECT (Ob Elektroerozionnom Ryade B. R. i N. I. Lazarenko s Tochki Zreniya Lents-Dzhoulevskogo effekta). May 60 [7]p. 4 refs. RTS 1452.
Order from LC or SLA mi$1.80, ph$1.80 60-17929

Trans. of A[kademiya] N[auk BSSR, Minsk] Fizika-Tekhnichny Instytut. Sbornik Nauchnykh Trudov, 1958 [v. 5] no. 4, p. 220-224.

An expression is derived which can serve for a qualitative comparison of the erosion effect at electrodes of different materials. Experimental data are tabulated for a series of metals obtained by B. R. and N. I. Lazarenko (The physics of the spark machining of metals, in Russian, Moscow, 1946). (See also AD-146 960)

Belchev, F. V. and Bergman, A. G.
POLYTHERM OF THE TERNARY SYSTEM: WATER-AMMONIUM SULFATE-AMMONIUM MONOPHOSPHATE (SULPHATE NITROPHOSKA-1). [1960] 3p. (3 figs. refs. 7 tables [no. 4 of conclusions] omitted).
Order from LC or SLA mi$1.80, ph$1.80 60-18075

Trans. of [Zhurnal Prikladnoy Khimii] (USSR) 1944, v. 17 [no. 9/10] p. 520-526.

Bernanose, André and Marquet, Gérard.
ELECTROLUMINESCENCE OF CARBAZOL BY ALTERNATING ELECTRIC FIELDS; CHARACTERIZATION OF ORGANIC ELECTROPHOTOLUMINESCENCE. [1960] 9p. (refs. 4 figs. omitted).
Order from SLA mi$1.80, ph$1.80 60-18064

Trans. of J[ournal de] Chim[ie] Phys[ique] (France) [1954] v. 51 [no. 5] p. 255-259.

Birthler, R.
RECENT PROGRESS OF PRESSURE HYDROGENATION-DEHYDROGENATION (D-H-D) AND OF AROMATIZED CRACKING, tr. by C. M. Frost. [1960]. Available on loan from Dept. of the Interior Library

Trans. of Freiberg[er] Forsch[ungshefte. Reihe A. Bergbau] (West Germany) 1953, v. 17, p. 29-37.

Chernova, K. C. and Korzh, Ye. V.
MUTUAL SOLUBILITY IN THE SYSTEM; DIAMMONIUM ORTHOPHOSPHATE-AMMONIUM SULFATE-WATER. [1960] 8p. 4 refs.
Order from LC or SLA mi$1.80, ph$1.80 60-18044

Trans. of Zhurnal Obshchey Khimii (USSR) 1946, v. 16 [no. 2] p. 171-178.

The ternary system $(NH_4)_2HPO_4$-$(NH_4)_2SO_4$-H_2O was studied by the polythermal method, from 20° to complete freezing of the solutions. Four crystallization fields were discovered: ice, $(NH_4)_2HPO_4 \cdot 2H_2O$, $(NH_4)_2HPO_4$ and $(NH_4)_2SO_4$. The addition of $(NH_4)_2SO_4$ leads to a very considerable decrease in the solubility of $(NH_4)_2HPO_4$. (Author)

Dansi, A. and Zanini, C.
REACTIONS OF N'-(β-PHENYLETHYL) BIGUANIDE. [1960] 5p.
Order from ATS $8.50 ATS-43M421

Trans. of Gazz[etta] Chim[ica] Ital[iana] 1959, v. 89, no. 7/8, p. 1681-1686.

Delimarskiy, Yu. K. and Nazarenko, G. D.
DECOMPOSITION POTENTIALS FOR METALLIC OXIDES DISSOLVED IN FUSED BORAX (Napryazheniye Razlozheniya Okislov Metallov, Rastvorennykh v Rasplavlennoy Bure). Aug 60 [10]p. 18 refs.
RTS 1469.
Order from LC or SLA mi$1.80, ph$1.80 60-23629

Trans. of Zhurnal Neorganicheskoy Khimii (USSR) 1957, v. 2, no. 4, p. 890-896.

The decomposition potentials were investigated of the following metallic oxides (CuO, Ag_2O, MgO, ZnO, CdO, Tl_2O, SnO_2, PbO, Sb_2O_3, Bi_2O_3, MoO_3, WO_3, Mn_2O_3, Fe_2O_3, CoO, NiO) dissolved in fused borax. On the basis of the values of the decomposition potential, the following electrochemical series of metals was determined with fused borax as the solvent, for a temperature of 840°: Na, Cr, Me, Fe, Mn, W, Zn, Sb, Ni, Sn, Cd, Bi, Tl, Co, Pb, Cu, Ag. A comparison of the values of the heat of formation of the pure oxides and the same oxides dissolved in fused borax, suggests that a chemical reaction takes place between these oxides and borax which is accompanied by the liberation of energy.

Dmitriyev, M. T.
RADIATION OXIDATION OF NITROGEN, tr. by B. W. Kuvshinoff. 7 July 60 [10]p. 19 refs.
TG 230-T149.
Order from OTS $0.50 60-21784

Trans. of Zhurnal Fizicheskoy Khimii (USSR) 1958, v. 32, no. 10, p. 2418-2423.

Measurements in the electrical discharge and under electronic impact have been carried out with the purpose of obtaining new data on the mechanism of the radiation oxidation of nitrogen. The kinetics of the radiation oxidation of nitrogen are described by a second-order equation. The primary elementary acts are ionization of the nitrogena nd subsequent dissociation of the molecular ion. No significant effect of oxygen ionization on the reaction has been observed. (Applied Physics Lab. abstract)

Finkel', E. E. and Chmutov, K. V.
THE APPLICATION OF A FLOW COUNTER FOR MEASURING THE MOISTURE PERMEABILITY OF FILMS FROM SYNTHETIC MATERIALS WITH THE AID OF TRITIUM LABELLED WATER (Primeneniye Protochnogo Schetchika dlya Izmereniya Vlagopronitsayemosti Plenok iz Sinteticheskikh Materialov pri Pomoshchi Vody, Mechennoy Tritiyem) tr. by D. L. Kassell. [1960] 11p. 8 refs. H-6287.
Order from OTS $0.50 60-21736

Trans. of Zhurnal Fizicheskoy Khimii (USSR) 1959, v. 33, no. 4 [p. 943-947].

A flow counter of the type SBS-6 was used in the previously described method (Zhur. Fiz. Khim. 31: 1650, 1957, available in translation from LC or SLA mi$1.80, ph$1.80 as 60-15699). Ethanol vapors were used as a carrier gas for the measurement of the activity of the tritium labelled water vapors. The apparatus comprised three independent vacuum diffusion cells with individual reservoirs of radioactive water and counters which were connected to the complete system. The use of the flow counters permitted changing the limits of measurements by varying the volume of the ethanol flow.

Gorbachev, S. V. and Zhuk, N. P.
THE INFLUENCE OF TEMPERATURE ON THE ELECTROLYTIC LIBERATION OF CHLORINE (Vliyame Temperatury na Skorost' Protsessa Elektroliticheskogo Vydeleniya Khlora). May 60 [26]p. 15 refs. RTS 1332.
Order from LC or SLA mi$2.70, ph$4.80 60-17470

Trans. of Zhurnal Fizicheskoy Khimii (USSR) 1951, v. 25, no. 7, p. 841-853.

The anodic liberation of chlorine on a platinum electrode was investigated for current densities of 0 to 0.7 amp/sq cm in the 25 to 90°C range. Three sets of electrolytic concentrations were used: (1) neutral aqueous solutions of 0.1, 0.5, 1.3, and 5 m NaCl; (2) aqueous solutions of 5 m NaCl + 0.1 m NaOH; 5 m NaCl + 0.06 m NaOH + 0.03 NaClO, and 5 m NaCl + 0.25 m NaOH; and (3) solutions of 5 m NaCl + 0.1 m HCl, and 5 m NaCl + 8 m HCl. The Tafel equation, $\eta = a + b \log I$, for the dependence of the overvoltage on the logarithm of the current density was inadequate for large current densities. A linear relationship was established between the logarithm of the current density and 1/T for anodic liberation of chlorine, over a wide range of polarization. Values of the activation energy of the process for various conditions of the electrolyte were obtained, establishing the presence of chemical and concentration polarizations. The significant influence of polarization on the activation energy was established. The influence of temperature on electrolytic polarization can be used to establish the type of polarization.

Günther, G.
FUNDAMENTALS OF LOW-TEMPERATURE HIGH-PRESSURE HYDROGENATION CATALYST AND THE INFLUENCE OF PROCESS CONDITIONS IN LTH-PROCESSES, tr. by C. M. Frost. [1960].
Available on loan from Dept. of the Interior Library

Trans. of Freiberg[er] Forsch[ungshefte. Reihe A. Bergbau] (West Germany) 1953, v. 17, p. 38-43.

Günther, G.
MATERIAL BALANCE OF HIGH-PRESSURE HYDROGENATION IN THE ZEITZ HYDROGENATION PLANT AND ITS EVALUATION, tr. by C. M. Frost and W. W. Fowkes. [1960].
Available on loan from Dept. of the Interior Library

Trans. of Freiberg[er] Forsch[ungshefte. Reihe A. Bergbau] (West Germany) 1954, v. 23, p. 5-12

Inghram, Mark G. and Gomer, Robert.
MASS-SPECTROMETRICAL STUDIES OF THE FIELD EMISSION OF POSITIVE IONS. [1960] [24]p. 10 refs.
Order from SLA mi$2.70, ph$4.80 60-18096

Trans. of Zeitschrift für Naturforschung (West Germany) 1955, v. 10a [no. 11] p. 863-872.

Kaliko, M. A.
FORMATION AND NATURE OF THE ACTIVE CENTERS ON ALUMINOSILICATE CATALYST. [1960] 5p. 6 refs.
Order from LC or SLA mi$1.80, ph$1.80 60-18081

Trans. of "Zhurnal Fizicheskoy Khimii" (USSR) 1959 [v. 33, no. 11] p. 2517-2520.

Investigated were the dynamics of surface activation and the variation of the specific surface value in the process of heat treatment of catalysts. Data on the crystal-water contents during the dehydration of a catalyst and of its component hydroxides have been obtained. This and some generalizations have been used as a basis for selecting an active centre model which corresponds best to the recent advances of the corpuscular theory of gels and which admits a definite participation of water in the catalytic act. (Author)

Kir'yakov, G. Z. and Bayniyetova, F. K.
SIMULTANEOUS LIBERATION OF HYDROGEN AND ZINC ON BINARY CATHODES IN THE PRESENCE OF CERTAIN SURFACE-ACTIVE SUBSTANCES (Sovmestnoye Vydeleniye Vodoroda i Tsinka na Binarnykh Katodakh v Prisutsvii Nekotorykh Poverknostno-Aktivnykh Veshchestv). Aug 60 [15]p. 6 refs. RTS 1418.
Order from LC or SLA mi$1.80, ph$1.80 60-23673

Trans. of Akademiya Nauk Kazakhshoy SSR [Alma Ata] Izvestiya. Seriya Khimicheskaya, 1958 [v. 3]13, no. 1, p. 19-22.

Amines and phenols lowered the over-voltage for the discharge of hydrogen ions on the cathode surface of zinc, copper and antimony. Surface-active additions of the hydroquinone and amidol types in zinc sulphate solutions, in the presence of ions of antimony, copper and other metals, lowered the quantity of zinc deposited with respect to current: in their presence the over-voltage for the liberation of hydrogen decreases and the discharge of zinc ions is slowed down.

Leroux, Jean-Pierre and Thureau, Pierre.
[ON A PYROMETRIC APPLICATION OF THE PHOTOLUMINESCENCE OF A ZINC-CADMIUM SULPHIDE ACTIVATED BY MANGANESE AND GOLD] (Sur une Application Pyrométrique de la Photoluminescence d'un Sulfure Zinc-cadmium Activé par le Manganese et l'Or). [1960] 3p. 2 refs.
Order from SLA mi$1.80, ph$1.80 60-18001

Trans. of [Academie des Sciences, Paris]. Comptes Rendus (France) 1959, v. 248, no. 24, p. 3424-3426.

The color modification of the photoluminescent emission of a sulfide mixture of zinc-cadmium (Au, Mn) under the influence of temperature changes is utilized for pyrometric purposes. A thermosensitive parameter is defined according to the spectral deformation. (Author)

Neuhaus, A. and Meyer, H. J.
THE SYNTHESIS OF THE DIAMOND, II, tr. by F. H. B. 14 Oct 59, 30p. (7 figs. omitted) 42 refs.
Order from LC or SLA mi$2.70, ph$4.80 59-22282

Trans. of Angewandte Chemie (West Germany) 1957, v. 69, no. 17, p. 551-557.

In continuation of a previous article (Angew. Chem. 66; 525, 1954) on the problem of diamond synthesis, the most recent experiments in this field are discussed, among them in particular the syntheses of the General Electric Co. and of the ASEA, including their theoretical and technical principles. It is shown that the success in carrying out diamond syntheses was only possible by the astonishing recent developments in the field of high pressure - high temperature autoclave technique, and it is pointed out that these novel methods usher in an entirely novel "chemistry of high pressures and temperatures" as well as also, for the first time, the possibility of an experimental petrological and geochemical exploration of the deeper magma (100-400 km) strata of the earth. (Author)

Patat, F. and Schmid, W.
ADHESION OF POWDERS. [1960] 20p.
Order from ATS $26.75 ATS-63M43G

Trans. of Chem[ie]-Ing[enieur]-Tech[nik] (West Germany) 1960, v. 32, no. 1, p. 8-16.

Pichler, Helmut.
THE PROBLEM OF THE COURSE OF REACTION IN THE HYDROGENATION OF CARBON DIOXIDE. [1960] 3p. 13 refs.
Order from SLA mi$1.80, ph$1.80 60-18058

Trans. of Brennstoff-Chemie (Germany) 1943, v. 24 [no. 4] p. 39-40.

Ruiter, E. de and Jungers, J. C.
LIQUID-PHASE HYDROGENATION OVER NICKEL. [1960] 24p.
Order from ATS $31.40 ATS-03M43F

Trans. of Soc[iété] Chim[ique de] Belg[ique]. Bull[etin] 1949, v. 58, p. 210-246.

Schäfer, Harald and Nickl, Julius.
ABOUT THE EQUILIBRIUM EQUATION FOR THE REACTION OF AND THE THERMO-CHEMICAL PROPERTIES OF THE GASEOUS SILICON DICHLORIDES. [1960] 19p. 11 refs.
Order from SLA mi$2.40, ph$3.30 60-18007

Trans. of [Zeitschrift für Anorganische Chemie] (East Germany) 1953, v. 274 [no. 4/5] p. 250-264.

Silicon-tetra chloride reacts at higher temperature with silicon by forming silicon di-chloride in gaseous form. This was derived from static equilibrium measurements between 1125 and 1300°C. At the normal temperature of 298° Kelvin, the reaction $2\,SiCl_{2(gas)} = Si_{(solid)} + SiCl_{4(gas)}$ occurs. The enthalpy of this reaction is 83.2 kilocalories and the enthalpy of the reaction is 58.5 calories. The enthalpy for silicon chloride in gaseous form at 298°K is 29.9 kilocalories and the normal entropy equals 71.1 calories. (Author)

Schäfer, Harald and Morcher, Bernhard.
ABOUT THE TRANSPORT OF SILICON IN A TEMPERATURE GRADIENT UNDER THE INFLUENCE OF SILICON DI-HALOGENIDE AND ABOUT THE TRANSPORT DIRECTION AS A FUNCTION OF PRESSURE. Pt. 3 of Chemical Transport Reactions. [1960] 18p. 13 refs.
Order from SLA mi$2.40, ph$3.30 60-18004

Trans. of [Zeitschrift für Anorganische Chemie] (East Germany) 1957, v. 290 [no. 5/6] p. 279-291.

Experiments are described for the transport of silicon with the help of gaseous dihalogenides, $SiCl_2$, $SiBr_2$, and SiI_2. For chloride and bromide, silicon travels from the higher to the lower temperatures. In the iodine system, however, the transport direction depends on the pressure: silicon at low pressures is transported to the hot zone, but at higher pressures, Si travels into the cooler zone. (Author)

Sokol'skaya, A. V. and El'piner, I. Ye.
FIXATION OF MOLECULAR NITROGEN BY THE ACTION OF ULTRASONIC WAVES WITH THE FORMATION OF BIOLOGICALLY IMPORTANT SUBSTANCES. 23 Sep 60, 4p. 2 refs. JPRS: 3965.
Order from OTS $0.50 60-31786

Trans. of *Akusticheskiy Zhurnal (USSR) 1960, v. 6, no. 2, p. 263-264.

Fixation of molecular nitrogen by organic compounds with the formation of amino acids is accomplished at near room temperature without biocatalysts if aqueous solutions of these compounds are subjected to the action of ultrasonic waves in the presence of gaseous nitrogen. (Author)

Stepukhovich, A. D.
THE NEGATIVE TEMPERATURE COEFFICIENT OF THE RATE OF RADICAL RECOMBINATION, tr. by R. P. Illwitzer. 27 May 60 [6]p. 5 refs. TG 230-T148.
Order from OTS $0.50 60-21788

Trans. of Zhurnal Fizicheskoy Khimii (USSR) 1958, v. 32, no. 10, p. 2415-2417.

The negative temperature coefficient of the rate of radical recombination is caused by a decrease in the steric factor of the reaction with increase in temperature. This is related to the negative entropy of activation of the activated complex in bimolecular reactions, i.e., with a more ordered configuration, whose formation is hindered by high temperatures. A negative activation energy has no meaning in bimolecular reactions; calculations indicate that radical recombination has a small positive activation energy. (Applied Physics Lab. abstract)

Styrikovich, M., Martynova, O. I. and others.
SOME REGULAR FEATURES IN THE CARRY-OVER OF WEAK MINERAL ACIDS INTO SATURATED STEAM (Nekotoryye Zakonomernosti Perekhoda Slabykh Mineral'nykh Kislot v Nasyshchennyy Par). Aug 60 [18]p. 5 refs. RTS 1453.
Order from LC or SLA mi$2.40, ph$3.30 60-23626

Trans. of Teploenergetika (USSR) 1959 [v. 6] no. 9, p. 50-56.

The transfer of silicon, boric, and aluminum acids from boiler water to saturated steam and the effect of alkalinity (pH) upon this process is discussed.

Takeda, Bunshichi and Yamaguchi, Bunnosuke.
PERMEABILITY OF POLYMER FILMS TO GASES. [1960] 33p. 19 refs.
Order from SLA mi$3.00, ph$6.30 60-16678

Trans. of Kogyo Kagaku Zasshi (Japan) 1959, v. 62, no. 12, p. 1897-1904.

Terem, Haldem N. and Akalan, Saman.
DISSOCIATION OF PHOSPHORIC ACID AND AMMONIUM PHOSPHATES. [1960] 2p.
Order from SLA mi$1.80, ph$1.80 60-18043

Trans. of [Academie des Sciences, Paris]. Comptes Rendus (France) 1949, v. 228, p. 1437-1439.

U-Shu-Tsyu, Yampol'skiy, B. Ya. and Voyutskiy, S. S.
THE STRUCTURE OF CARBON SUSPENSIONS. II. EFFECT OF TEMPERATURE AND ADDITION OF SURFACE-ACTIVE SUBSTANCES ON GELATION OF CARBON SUSPENSIONS. [1960] 7p.
Order from ATS $9.95 ATS-05M43R

Trans. of *Kolloid[nyy] Zhur[nal] (USSR) 1956. v. 18, no. 6, p. 748-754.

Volker, Th.
POLYMERIC HYDROCYANIC ACID. [1960] 12p.
Order from ATS $16.95 ATS-19M43G

Trans. of Angew[andte] Chem[ie] (West Germany) 1960, v. 72, no. 11, p. 379-384.

Zhdanov, G. S., Zvonkova, Z. V., and Glushkova, V. P.
THE CRYSTALLINE STRUCTURE OF THIOCYANATES. IX. X-RAY EXAMINATION OF CRYSTALLINE STRUCTURES OF COMPLEX CHROMIUM NICKEL AND PLATINUM HEXATHIOCYANATES (Kristallicheskoye Stroyeniye Rodanidov. IX. Rentgenostrukturnoye Issledovaniye Kristallov Kompleksnykh Geksarodanidov Khroma, Nikelya i Platiny). Aug 60 [7]p. 5 refs. RTS 1429.
Order from LC or SLA mi$1.80, ph$1.80 60-23674

Trans. of Zhurnal Fizicheskoy Khimii (USSR) 1953, v. 27, no. 1, p. 106-110.

Crystals $K_3Cr(SCN)_6 \cdot 4H_2O$, $K_4Ni(SCN)_6 \cdot 4H_2O$ and $PbPt(SCN)_6$ were found to belong to the trigonal system and to have a point symmetry D_{3d} - $\bar{3}m$. A number of the same type of layer structures of complex hexathiocyanates of metals of the A_nB type (for $n = 1, 2, 3, 4$) were found with point symmetry D_{3d} - $\bar{3}m$ of the crystal depending on the symmetry of the complex ions. (See also 60-23566)

Zogala, Jan.
CONTRIBUTION TO THE KNOWLEDGE OF CATALYST 10927, tr. by C. M. Frost. [1960].
Available on loan from Dept. of the Interior Library

Trans. of Freiberg[er] Forsch[ungshefte. Reihe A. Bergbau] (West Germany) 1955, v. 36, p. 31-41.

EARTH SCIENCES

Drogaytsev, D. A.
THE TRANSVERSE SYSTEMS OF COORDINATES FOR THE ARCTIC, tr. by M. Slessers. [1960] [13]p. 3 refs. Trans-76.
Order from LC or SLA mi$2.40, ph$3.30 60-23767

Trans. of [Problemy Severa] (USSR) [1958] no. 1, p. 346-353.

The application of a cartographic grid network of coordinates for the solution of certain geophysical problems associated with the plotting of fields for meteorological and hydrological magnitudes in Polar areas is discussed, and the method is illustrated with corresponding charts and tables of the transformed coordinate system. (Navy Hydrographic Office abstract)

Sadokov, V. P.
CONCERNING ONE NUMERICAL METHOD OF CALCULATION OF THE BASIC FIELD FOR THE CASE OF A BAROCLINIC ATMOSPHERE. 3 Aug 60, 12p. 4 refs. JPRS: 5209.
Order from OTS $0.50 60-41102

Trans. from [Tsentral'nyy Institut Prognozov]. Trudy (USSR) 1958, v. 78.

A method of calculation of the basic field for the case of a baroclinic atmosphere is given. The method of characteristics was assumed as a basis, i.e., the geopotential field or its certain operator is advected along the characteristic curves which remain constant during the course of the small period of time of the forecast. The final formulae were computed on the high speed electronic computing machine. (Author)

Geology

INTERNATIONAL GEOLOGY REVIEW, VOL. 1, NO. 7. July 59, 94p.
Order from AGI $5.00, $55.00/year

Trans. of Novosti Neftyanoy Tekhniki. Geologiya (USSR) 1958, no. 8, p. 34-41; Izvestiya Vysshikh Uchebnykh Zavedeniy. Geologiya i Razvedka (USSR) 1958, no. 2, p. 3-17; Akademiya Nauk SSSR. Institut Geologicheskikh Nauk. Trudy. Geologicheskaya Seriya [1955] v. 155, no. 66, p. 3-115; Roemeriana (West Germany) 1954, v. 1, Dahlgrun-Festschrift, p. 23-28; Razvedka i Okhrana Nedr (USSR) 1958 [v. 24] no. 9, p. 11-14; and mono. Soveshchanyye po Probleme Proiskhozhdeniya Neft i Formirovaniya Neftyanykh Zalezhey, Baku, 1958.

Contents:
Certain Data on the Genesis and Ecologic Character of Frasnian Reefs of the Ardennes, by Marius Lecompte
On Prospecting Methods for Buried Devonian Upwarps in the Volga Region at Saratov, by Yu. P. Bobrov
Gaussberg, Antarctica, by O. S. Vyalov and V. S. Sobolev
A Contribution to the Geochemistry of Reservoir Formations: the Lower Frasnian of the Volga-Urals (Pt. 3 of 3) by N. M. Strakhov and others
On Certain Stratigraphic Fundamentals, by Otto H. Schindewolf
*The Relationship between Exploration, Surveying, and Prospecting, by M. A. Konplyantsev
Summary of Reports presented at the Conference on the Problem of the Origin of Oil and the Formation of Oil Deposits, ed. by M. V. Abramovich and Sh. F. Mekhtiyev

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INTERNATIONAL GEOLOGY REVIEW, VOL. 1, NO. 9. Sep 59, 88p.
Order from AGI $5.00, $55.00/year

Trans. of Mineralogicheskiy Sbornik (USSR) 1957, v. 11, p. 303-321; *Akademiya Nauk SSSR. Laboratoriya Geologii Ugl'ya. Trudy, 1956, v. 6, p. 9-17; Novosti Naftyanoy Tekhniki. Geologiya (USSR) 1958, no. 8, p. 12-16; Sovetskaya Geologiya (USSR) 1958, no. 4, p. 162-165; *Akademiya Nauk Kazakhskoy SSR [Alma Ata]. Vestnik, 1958 [v. 14] no. 5(158), p. 68-74; *Razvedka i Okhrana Nedr (USSR) 1957 [v. 23] no. 5, p. 57-58 and *1958 [v. 24] no. 5, p. 38-44; *Akademiya

Nauk SSSR. [Sibirskoye Otdeleniye]. Izvestiya, 1957, no. 1, p. 27-39; Geologische Rundschau (West Germany) 1958, v. 47, no. 1, p. 218-234; Jahrbuch der Deutschen Quartärvereinigung [sic] 1951, no. 1, p. 16-26; *Akademiya Nauk SSSR. Vestnik, 1957, v. 27, no. 4, p. 114-116; and from mono. Geology and Mineral Resources of the Far East, Formosa, pt. III-2a. Stratigraphy and Paleontology, 1951.
*Translations of these articles are also available separately elsewhere.

Consists of articles by A. B. Bekturov, J. Büdel, I Hayasaka, V. K. Khmelovskiy, A. K. Malovichko, O. Mellis, M. M. Odinstov, V. B. Olenin, I. P. Luginets, A. A. Lyuber, A. V. Skropyshev and N. B. Vassozhevich, also Review Section.

INTERNATIONAL GEOLOGY REVIEW, VOL. 2, NO. 8. Aug 60, 1v.
Order from AGI $5.00, $55.00/year

Trans. of [Akademiya Nauk SSSR]. Institut Geologicheskikh Nauk. Trudy, 1946, no. 71. Petrograficheskaya Seriya, no. 24, p. 1-83; Akademiya Nauk SSSR. Institut Geologicheskikh Nauk. Trudy, no. 143. Geologicheskaya Seriya, no. 60, page (?); and of mono.* Natural Geographic Data of North China, sections of Introduction and Geomorphology, p. 1-23, Peiping, 1957.

Contents:
The Spilite-keratophyre Formation in the Region of the Blyava Deposit in the Ural Mountains, pt. 2, by V. A. Zavaritskiy
Spore-pollen Complexes of Upper Devonian of the Russian Platform, by S. N. Naumova
Natural Geographic Data of North China (partial trans) by K'o-hsueh Ch'u-pan-she
Reference Section

Alekseyev, A. M.
THE PPMZ-2 ACCESSORY FOR INTERMEDIATE MAGNETIC RECORDING IN SEISMIC PROSPECTING July 60 [49]p. 4 refs. RTS 1308.
Order from LC or SLA mi$3.30, ph$7.80 60-23615

Trans. of Razvedochnaya i Promyslovaya Geofizika (USSR) 1958, v. 22, p. 3-76.

The equipment is described and operating and maintenance instructions are given.

Alikhova, T. N.
ON THE QUESTION OF THE DIVISION OF THE ORDOVICIAN SYSTEM (K Voprosu o Raschlenenii Ordovikskoy Sistemy). July 60 [42]p. 40 refs. RTS 1083.
Order from LC or SLA mi$3.30, ph$7.80 60-19872

Trans. of Sovetskaya Geologiya (USSR) 1957, no. 55, p. 93-113.

A division of the various Ordovician layers into the different biogeographical provinces, the European and the Pacific, is recommended. (Reported at the All-Union Conference on general problems of stratigraphic classification, in January 1955)

Kireyeva, G. D.
SOME ECOLOGIC MORPHAE OF SCHWAGERINAS FROM THE BAKHMUT TROUGH OF THE DONETS BASIN. [1960] 15p.
Order from ATS $25.75 ATS-69M42R

Trans. of Voprosy Mikropaleontol[ogii] (USSR) 1958 [v. 2] no. 2, p. 91-104.

Li, Ssu-kuang.
DEVELOPMENTS IN GEOLOGICAL WORK IN COMMUNIST CHINA IN THE PAST DECADE. 21 July 60, 31p. JPRS: 5090.
Order from OTS $1.00 60-11986

Trans. of K'o Hsüeh T'ung Pao (Chinese People's Republic) 1959, no. 18, p. 586-593.

Oceanography

Apollov, B. A.
CASPIAN SEA AND ITS BASIN, tr. by M. Slessers. 1960 [132]p. (36 figs. omitted). Trans.-1.
Order from LC or SLA mi$6.90, ph$21.30 60-23763

Trans. of mono. Kaspiyskoye More i yego Basseyn, Moscow, 1956, p. 1-121.

Discussions are presented on: (1) History of the investigations of the Caspian Sea; (2) boundaries and expanse of the Caspian Sea; (3) geology of the Caspian Sea; (4) coast of the Caspian Sea; (5) climate of the Caspian Sea and its basin; (6) soil of the Caspian Basin and ground of the sea bottom; (7) currents of the Caspian Sea; (8) swell on the Caspian Sea; (9) water properties of the Caspian Sea; (10) water balance and level of the Caspian Sea; (11) general ideas about the regulation of the Caspian Sea; (12) flora of the Caspian Basin and sea bottom; (13) the animal world of the Caspian Sea; and (14) natural resources of the Caspian Sea.

Bekman, M. Yu.
MATERIALS FOR THE QUANTITATIVE CHARACTERIZATION OF THE BLACK SEA BOTTOM FAUNA AT KARADAG (Materialy dlya Kolichestvennoy Kharakteristiki Donnoy Fauny Chernogo Morya) tr. by M. Slessers. 1959 [30]p. 12 refs. Trans-91.
Order from LC or SLA mi$2.70, ph$4.80 60-23773

Trans. of Karadags'ka Biologichna Stantsiya. Trudy (USSR) 1952, v. 12, p. 50-67.

The bottom fauna found at Karadag in the Black Sea is analyzed with respect to various bottom types, species inhabiting them, their quantity, population density, absolute and relative biomass and other aspects so as to present a comprehensive survey of the benthic species inhabiting the area. (Navy Hydrographic Office abstract) (See also 60-23772)

Drogaytsev, D. A.
WIND CURRENTS IN THE ARCTIC OCEAN (Vetrovyye Techeniya v Severnom Ledovitom Okeane) tr. by M. Slessers. 1959 [25]p. 14 refs. Trans-67.
Order from LC or SLA mi$2.70, ph$4.80 60-23764

Trans. of Problemy Severa (USSR) 1958, no. 2, p. 1-16.

The currents created by wind and supported by drifting ice are discussed with a view to elucidating the effect of wind, drifting ice, geographical locality, the size and coastal delineation of the sea as well as the interaction of atmosphere on the speed and direction of the currents. (using first a simplified model of the atmospheric pressure system over the Arctic Ocean). The resulting conclusions are compared with observational data concerning the drifting Polar stations and vessels, on the basis of which improved equations defining the role of various components of wind, ice drift, etc. are formulated. (Navy Hydrographic Office abstract)

Furuhata, Tuneo.
NEW AUTOMATIC DATA PROCESSING MACHINE, MERIAC-1-F. Feb 60, 22p. 18 refs. Bureau of Ships Trans. no. 703.
Order from OTS $0.75 60-21726

Trans. of [Kisho To Tokei] (Japan) 1959, v. 10 [no. 1] p. 23-31.

The MERIAC-1-F, an electronic computer for Fourier analysis, is designed to cope with situations which can arise in the routine observations of ocean waves. Its operating principles and design are described. MERIAC-1-F can be used as an information machine, and it can perform integrated data processing.

Gordiyenko, P. A.
ICE DRIFT IN THE ENTRAL PART OF THE ARCTIC OCEAN (Dreyf L'dov v Tsentral'noy Chasti Severnogo Ledovitogo Okeana) tr. by M. Slessers. 1960 [45]p. Trans-71.
Order from LC or SLA mi$3.30, ph$7.80 60-23766

Trans. of Problemy Severa (USSR) [1958] no. 1, p. 5-29.

Ice displacements in the Arctic Ocean are analyzed with respect to direction and speed in various sectors of the ocean, taking into consideration the essential components of ice drift, such as wind drift, currents, their fluctuations and shifts, atmospheric conditions, and other factors. The analysis is based on observational data concerning the drift of the Soviet North Pole stations, notably NP-3; NP-4 and NP-5 in 1954-1955. In conclusion, the prospects and accuracy in forecasting the ice movements and conditions that affect navigation on the Northern Sea Route are evaluated.

Khanaychenko, N. K.
THE INFLUENCE OF THE DENSITY OF WATER ON DEVIATIONS OF THE SEA LEVEL FROM THE SURFACE OF THE GEOID. 5 Aug 60, 8p. 6 refs. JPRS: 2892.
Order from OTS $0.50 60-11791
Trans. of Meterologiya i Gidrologiya (USSR) 1960, no. 3, p. 35-37.

Klincharev, K. V.
MATERIALS FOR QUANTITATIVE CHARACTERIZATION OF THE BLACK SEA ZOOPLANKTON AT KARADAG (Materialy dlya Kolichestvennoy Kharakteristiki Zooplanktona Chernogo Morya u Karadaga) tr. by M. Slessers. 1960 [32]p. 4 refs. Trans-89.
Order from LC or SLA mi$3.00, ph$6.30 60-23771

Trans. of Karadags'ka Biologichna Stantsiya. Trudy (USSR) 1952, v. 12, p. 78-95.

The observational materials collected and processed in 1929-1932 and in 1938-1939 are analysed with a view to presenting systematic quantitative (and also qualitative) information on the zooplankton inhabiting the Karadag area in the Black Sea in various seasons and at various depth levels. (Navy Hydrographic Office abstract) (See also 60-23772, 60-23773)

Morozova-Vodyanitskaya, N. V.
PHYTOPLANKTON IN THE BLACK SEA AND ITS QUANTITATIVE GROWTH (Fitoplankton v Chernom More i yego Kolichestvennoye Razvitiye) tr. by M. Slessers. 1960 [28]p. 8 refs. Trans-80.
Order from LC or SLA mi$2.70, ph$4.80 60-23769

Trans. of [Akademiya Nauk SSSR]. Sevastopol'skaya Biologicheskaya Stantsiya. Trudy, 1957, v. 9, p. 3-13.

On the basis of systematic investigations carried out by the Sevastopol Biological Station since 1939, new data concerning the distribution, the species, the numerical amount and biomass of phytoplankton in the Black Sea are disclosed. In line with this, the relation between the mean diurnal production and biomass, and between the production and consumption of the marine plant forms in various seasons of the year is brought into discussion. (Navy Hydrographic Office abstract)

Ryabchikov, P. I.
DISTRIBUTION OF MARINE BORERS IN THE SEAS OF THE USSR, tr. by M. Slessers. 1960 [279]p. 157 refs. Trans-100.
Order from LC or SLA mi$11.10, ph$42.60 60-23777

Trans. of mono. Rasprostraneniye Drevotochtsev v Moryakh SSSR, Moscow, 1957, p. 1-229.

The quantitative and qualitative distribution of marine borers in the seas of USSR (the Black, Barents, and White seas, the seas of Okhotsk and Japan) is discussed on the basis of systematic observation data gathered during the last decade. In analyzing the fluctuations and changes in the distribution pattern of marine borers, earlier observations and information contained in literature also are outlined and taken into consideration. In addition, the author points out the causes of the occurrence of marine borers, the temporary increase or decrease of their numbers and the damage committed by the pests to wooden structures and vessels. Graphs and figures illustrate the occurrence of the most significant marine borers--Teredo navalis, Bankia setacea and Limnoria--and the damage committed by them. (Navy Hydrographic Office abstract)

Sharanov, I. V.
FAUNA OF CLIFFS AND STONE PEBBLES IN THE BLACK SEA AT KARADAG (Fauna Skal i Kamenistykh Rossypey v Chernom More u Karadaga) tr. by M. Slessers. 1960 [21]p. 10 refs. Trans-90.
Order from LC or SLA mi$2.70, ph$4.80 60-23772

Trans. of Karadags'ka Biologichna Stantsiya. Trudy (USSR) 1952, v. 12, p. 68-77

The organisms inhabiting the cliffs and stone pebbles in the Black Sea at Karadag are analyzed with respect to their quantity, composition, biomass, and the interrelation and variation of the magnitudes with respect to the type of bottom and season. The discussion is illustrated by tables and diagrams based on samples collected during 1938-1940 and during 1928-1930. (Navy Hydrographic Office abstract) (See also 60-23771, 60-23773)

Svetovidov, A. N.
ON THE BLACK SEA SPECIES OF THE GENUS SCORPAENA (O Chernomorskikh Vidakh Roda Scorpaena) tr. by M. Slessers. 1959 [13]p. 18 refs. Trans-81.
Order from LC or SLA mi$2.40, ph$3.30 60-23770

Trans. of Akademiya Nauk SSSR. Doklady, 1957, v. 117, no. 5, p. 910-913.

The few species of the genus Scorpaena inhabiting the Black Sea are described, pointing out their distribution and the errors in their identification in the past and present. (Navy Hydrographic Office abstract)

Seismology

Napalkov, Yu. V.
THE RESOLVING POWER OF THE ADJUSTABLE BEARING METHOD FOR DETECTING SEISMIC WAVES (K Voprosu o Razreshayushchey Sposobnosti Metoda Reguliruyemogo Napravlennogo Priyema Seysmicheskikh Voln). Aug 60 [28]p. 2 refs. RTS 1403.
Order from LC or SLA mi$2.70, ph$4.80 60-23672

Trans. of Moskovskiy Neftyanyy Institut. Trudy (USSR) 1957, v. 18, p. 39-75.

In studying the resolving power of ABD apparatus for non-stationary pulses we have postulated an arbitrarily chosen type of pulse form, and obtained the directional characteristics, for any given moment of time, for exponentially damped pulses, and the instantaneous directional characteristics for the moment of time coinciding with maximum amplitude, in the case of pulsed waves. In both cases we have assumed harmonic filling of the amplitude envelopes of the pulse. The theory we have expounded indicates that, for the class of non-stationary waves under consideration, ABD equipment has very much the same capacity to resolve irregular vibrations as it has to resolve waves of a purely harmonic form. Its resolving power is enhanced when the damping of pulsed waves is increased. (Author)

Riznichenko, Yu. V.
DISPERSED REFLECTED-REFRACTED SEISMIC WAVES. [1960] 5p. 1 ref.
Order from LC or SLA mi$1.80, ph$1.80 60-18036

Trans. of Akad[emiya] Nauk SSSR. Dokl[ady] 1959, v. 126, no. 4, p. 759-762.

The effect of free-Earth surface is considered and the solution is given for the point of observation or of excitation of vibrations, located in any point of dispersing medium, or, more precisely, on any of the multiple dispersing boundaries, not necessarily on the surface of dispersing medium. The formula for sums of the rows, determining the numbers of waves with different amounts of refraction and reflection, are given under the final form. (See also 60-16897)

Riznichenko, Yu. V., Ivakin, B. N., and Bugrov, V. R.
MODELLING OF SEISMIC WAVES. [1960] 34p. 72 refs.
Order from LC or SLA mi$3.00, ph$6.30 60-18065

Trans. of Akad[emiya] Nauk SSSR. Izvestiya. Ser[iya] Geofiz[icheskaya] 1951, no. 5, p. 1-30.

The possibilities of various methods for the study of wave phenomena under laboratory conditions with the goal of seismic waves modelling for problems of seismic prospection and of earthquake studying were examined. Experimental investigations of the development of the method, based on the use of elastic vibrations with predominently ultrasonic frequency, were described. The developed method permits the laboratory production of seismograms, analogous to these obtained in field, during seismic prospection by the method of reflected waves and by the correlation method of refracted waves, which can be produced through the multichannel recording of earthquake waves. (Author)

ENGINEERING

Dietz, [O]. and Harling, [R].
EXAMINATION OF LATERAL STRESS AND SHIMMY PHENOMENA ON AIRPLANE WHEEL TIRES. [1959] [56]p. 10 refs. (foreign text included) F-TS-1561-RE; ATI 18905.
Order from LC or SLA mi$3.60, ph$9.30 59-19762

Trans. of mono. Seitensteifigkeit und Seitenführung von Flugzeugreifen, Stuttgart, 29 Oct 41 (PB 36 546).

Data are presented which are derived from tests using a steel drum, to determine the lateral rigidity and lateral load characteristics of rubber-tired aircraft wheels. It is shown that lateral load forces in banking can be determined by means of a simple equation.

Sidorenko, A. K.
ASPECTS OF THE DEVELOPMENT OF THE DRILLING OF DEEP BORE HOLES IN HARD ROCK (Perspektivy Razvitya Perforatornogo Bureniya Glubokikh Skvazhin v Krepkikh Gornykh Porodakh) Aug 60 [13]p. 9 refs. RTS 1449.
Order from LC or SLA mi$2.40, ph$3.30 60-23811

Trans. of Gornyy Zhurnal (USSR) 1957, no. 4, p. 10-14.

Chemical Engineering

PROCESS FOR THE PREPARATION OF FERTILIZER AND PRODUCTS RESULTING THEREFROM. [1960] 3p
Order from LC or SLA mi$1.80, ph$1.80 60-18047

Trans. of French patent 957,082, 13 Feb 50, by Societé Tunisienne de l'Hyperphosphate.

The process consists of an intimate prolonged contact of natural phosphate with acid salts. Pulverization of the pressed components to a fineness smaller than 50 microns results in a soluble phosphate salt.

Boguslavskiy, N. M.
METHOD OF CALCULATION OF THE MOVEMENT OF FREE-FLOWING MATERIALS IN ROTARY KILNS, PARTICULARLY SODA KILNS (Metod Rascheta Dvizheniya Sypuchikh Materialov vo Vrashchayushchikhaya i, v Chastnosti, Sodovykh Pechakh). Aug 60 [18]p. 8 refs. RTS 1504.
Order from LC or SLA mi$2.40, ph$3.30 60-23630

Trans. of Khimicheskaya Promyshlennost' (USSR) 1956, no. 2, p. 89-97.

A theory and calculations are presented which may be used in development of a rational construction of a kiln for calcination of bicarbonate and for thermal treatment of other free-flowing materials carried out by surface heating. The theory is based on the analytical relationship proposed by W. C. Saeman (Chem. Eng. Progr. 47: 508, 1951).

Geyman, M. A., Shneyerson, V. B., and Mamikonov, A. G.
THE INFLUENCE OF PRESSURE ON THE CHANGE IN WETTABILITY OF MINERALS IN PETROLEUM DEPOSITS (Vliyaniye Davleniya na Izmeneniye Smachivayemosti Mineralov v Neftyanykh Kollektorakh). Aug 60 [14]p. 15 refs. RTS 1468.
Order from LC or SLA mi$2.40, ph$3.30 60-23778

Trans. of Akademiya Nauk SSSR. Otdeleniye Tekhnicheskikh Nauk. Izvestiya, 1955, no. 6, p. 127-139.

Results are given of investigations of the wettability by water of calcite treated with toluene alone and toluene solutions in various petroleums (Romashkinskii, Tuimazinskii, Lenin and Buzovninskii) at pressures from 1 to 350 kg/sq cm at the interface with nitrogen, and the wettability of calcite treated with toluene in 25% solution of Romashkinskii petroleum in toluene in a carbon dioxide gas medium at pressures from 1 to 50 kg/sq cm. In a nitrogen medium with increasing pressure up to 50 kg/sq cm, the wettability with water changes little, then improves reaching a maximum about 150 kg/sq cm after which it is again reduced and at 250 to 350 kg/sq cm it becomes lower than at atmospheric pressure. In a carbon dioxide gas medium the wettability of calcite treated with 25% solution of Romashkinskii petroleum in toluene is also improved with increasing pressure and at 30 to 50 kg/sq cm reaches the highest value. In the absence of a petroleum adsorption film, i.e., after treatment of the section of calcite with pure toluene at high pressure (at the interface with nitrogen and carbon dioxide gas, there is no maximum), wetting is reduced.

Greber, W.
CONCERNING THE NECESSITY OF INFORMATION ON POROUS SYSTEMS AND METHODS OF THEIR INVESTIGATION IN LOW-TEMPERATURE HYDROGENATION (LTH-PROCESSES) tr. by W. W. Fowkes. [1960]
Available on loan from Dept. of the Interior Library

Trans. of Erdöl u[nd] Kohle (West Germany) 1956, v. 9, p. 616-620.

Gusev, G. M. and Shvartsman, Ya. N.
SOME QUESTIONS RELATING TO THE FURTHER DEVELOPMENT OF FLUIDIZED BED FURNACES FOR THE ROASTING OF ZINC CONCENTRATES (O Nekotorykh Voprosakh Dal'neyshego Sloya dlya Obzhiga Tsinkovykh Konsentratov). Aug 60 [12]p. 1 ref. RTS 1409.
Order from LC or SLA mi$2.40, ph$3.30 60-23805

Trans. of Tsvetnnyye Metally (USSR) 1958, v. 31, no. 4, p. 29-34.

It is suggested that the solution to the questions asked by I. A. Burovy (Tsvetnnyye Metally 30: 77-78, 1957) is only possible when the questions are answered concerning the distribution of the concentrate in the fluidized bed and the use of atmospheric oxygen for the removal of sulfur. The opinions of the authors on these questions, based on daily observations of the performance of industrial fluidized bed furnaces, are presented here.

Kowalski, G. and Los, H.
DEPHENOLATION OF TAR OILS BY MEANS OF LACTIC ACID, tr. by W. W. Fowkes. [1960].
Available on loan from Dept. of the Interior Library

Trans. of Brennstoff-Chemie (West Germany) 1959, v. 40, (no. ?) p. 198-201.

Kozin, A. N.
THE GEOCHEMISTRY OF BROMINE AND IODINE IN THE OIL FIELD WATERS OF THE KUIBYSHEV-VOLGA REGION. [1960] 5p.
Order from ATS $7.75 ATS-68M42R

Trans. of *Geol[ogiya] Nefti i Gaza (USSR) 1960, v. 4, no. 2, p. 41-45.

Pegoraro, M., Beati, E., and Severini, F.
DIELECTRIC PROPERTIES OF GRAFT POLYMERS: POLYSTYRENE GRAFTED ON POLYBUTENE EXHIBITING ISOTACTIC CRYSTALLINITY. July/Aug 60, 14p. 8 refs.
Order from CTS(Chem) $15.20, subsequent copies $2.50/ea. CTS(Chem)-157

Trans. of [la] Chimica e [l']Industria (Italy) 1960, v. 42, no. 8, p. 843-848.

Pino, P., Lorenzi, G. P., and Lardicci, L.
OPTICALLY ACTIVE VINYL POLYMERS. I. PREPARATION OF ISOTACTIC POLYMERS OF OPTICALLY ACTIVE α-OLEFINS. July/Aug 60, 25p. 52 refs.
Order from CTS(Chem) $32.40, subsequent copies $3.50/ea. CTS(Chem)-148

Trans. of [la] Chimica e [l']Industria (Italy) 1960, v. 42, no. 7, p. 712-721.

Rummel, R. and Lorenzen, G.
THE SLAG-BATH GENERATOR, tr. by W. W. Fowkes. [1960]
Available on loan from Dept. of the Interior Library

Trans. of Ind[ustrie] Chim[ique] Belge, 1959 [v. 24] Suppl. no. 1, p. 481-485.

Slobodyanik, I. P., Kasatkin, A. G., and Kafarov, V. V.
DESIGN OF PACKED TOWERS FOR CHEMISORPTION CONDITIONS, I. [1960] 6p.
Order from ATS $13.00 ATS-73M43R

Trans. of Izvest[iya] Vysshikh Ucheb[nykh] Zavedeniy. Khim[iya] i Khim[icheskaya] Tekhnol[ogiya] (USSR) 1959, v. 2, no. 6, p. 956-961.

Varga, J., Rabo, Gy., and Szekely, A.
NEW PROCESSING POSSIBILITIES OF ASPHALT-CONTAINING CRUDE OILS, tr. by C. M. Frost. [1960].
Available on loan from Dept. of the Interior Library

Trans. of Acta Chimica (Hungary) 1955, v. 6, p. 443-451.

Vol'fkovich, S. I. and others.
THE HYDROTHERMAL PROCESS FOR FLUORINE REMOVAL FROM NATURAL PHOSPHATES IN A CYCLONE FURNACE. [1959[11p.
Order from ATS $17.95 ATS-83M42R

Trans. of Khim[icheskaya] Prom[yshlennost'] (USSR) 1959, no. 12, p. 674-680.

Wissel, K.
PETROLEUM PROCESSING BY A COMBINATION OF HYDROGENATION AND CRACKING, tr. by C. M. Frost. [1960].
Available on loan from Dept. of the Interior Library

Trans. of Erdöl u[nd] Kohle (West Germany) 1953, v. 6, p. 696.

Zinov'yeva, A. P. and Orochko, D. I.
DYNAMICS OF CHEMICAL CONVERSIONS IN FLOW REACTORS WITH INTERNAL MIXING. [1960] 10p. 10 refs.
Order from LC or SLA mi$1.80, ph$1.80 60-18067

Trans. of Khimiya i Tekhnologiya Topliv i Masel (USSR) 1959 [v. 4] no. 11, p. 41-48.

The effect of an internal reactor mixing on the course of simple reactions of the 1-st order, without and with variation in the number of moles (inhibited), and also reversible, was examined. General kinetic equations for these chemical conversions in flow reactors with any intensity of interractor mixing were produced. Under the limiting conditions of absence of longitudinal mixing (r = 0) and of its infinitely great intensity (r=∞) these equations take the form of kinetic correlations for ideal displacement and for ideal mixing. (Author)

Electrical and Electronic Engineering

MAGYAR HIRADASTECHNIKA (HUNGARY) 1960, NO. 1, SELECTED ABSTRACTS [Hungarian Communication Technology]. [1960] [3]p. HUN/9-60-1-9/13.
Order from LC or SLA mi$1.80, ph$1.80 60-17060-1

Consists of selected abstracts in English.

RADIO ENGINEERING AND ELECTRONICS, 1960, VOL. 5, NO. 1. July 60, 260p.
Order from PP $60.00/year ($22.50/year to individuals)

Trans. of Radiotekhnika i Elektronika (USSR) 1960, v. 5, no. 1, p. 3-176.

TIEN SHIH CHIEH (CHINESE PEOPLE'S REPUBLIC) 1959, VOL. 13, NO. 5, SELECTED ABSTRACTS [Electric World]. [1960] 6p. CHICOM/10-59-5-(2-3, 5, 10, 16, 19)/42.
Order from LC or SLA mi$1.80, ph$1.80 60-17869-5

Consists of selected abstracts in English.

Greybo, G. A. and Gomer, G. I.
TELEVISION; RADIO-RELAY TELEVISION LINES WITH R-600 EQUIPMENT [AND] THE COUNTRY'S FIRST COLOR STEREOSCOPIC TELEVISION INSTALLATION. 18 Aug 60 [24]p. JPRS: 5350.
Order from OTS $0.75 60-41213

Trans. of Vestnik Svyazi (USSR) 1960 [v. 20] no. 5, p. 5-8 and 12.

Abramova, T. V.
THE USE OF SILICA GEL IN CABLE WORK.
1 July 60, 5p. USASIA: SC-120f/60; JPRS:R-869.
Order from OTS $0.50 60-31354

Trans. of Vestnik Svyazi (USSR) 1960 [v. 20] no. 1, p. 11-12.

Khovin, S. I.
REMOTE CONTROL OF A SHORT-WAVE TRANSMITTER. 1 July 60, 11p. (6 figs. omitted). USASIA: SC-120d/60; JPRS:R-867.
Order from OTS $0.50 60-31352

Trans. of Vestnik Svyazi (USSR) 1960 [v. 20] no. 1, p. 6-8.

Kislyakov, B. G.
USE OF RRS-L RADIO RELAY EQUIPMENT IN VIRGIN LANDS. 1 July 60, 3p. (2 figs. omitted). USASIA: SC-120g/60; JPRS:R-870.
Order from OTS $0.50 60-31355

Trans. of Vestnik Svyazi (USSR) 1960 [v. 20] no. 1, p. 16.

Klykov, S. I., Bakhtov, I. S., and Davydov, Yu. V.
NEW DIRECT FOTOTELEGRAPH EQUIPMENT.
1 July 60, 9p. (2 figs. omitted). USASIA: SC-120c/60; JPRS:R-866.
Order from OTS $0.50 60-31351

Trans. of Vestnik Svyazi (USSR) 1960 [v. 20] no. 1, p. 3-5.

Müller, J. and Demus, E.
INVESTIGATION OF A NOISE DISCRIMINATION FILTER FOR TELEVISION. July 60, 24p. 13 refs.
Order from SLA mi$2.70, ph$4.80 60-18101

Trans. of NTZ [Nachrichtentechnische Zeitschrift] (West Germany) 1959, v. 12, no. 4, p. 181-186.

A noise weighting curve is derived on the basis of investigations of the 625-line standard. The simple type of filter proposed by the Netherlands (in 1957) is suitable as a noise discrimination filter for practical application and it is expedient to employ the time constant T= 0.34 μs with L= 25.6 μs and C= 4540 pF. It is determined that the limit of perceptibility for a uniform noise spectrum up to 5 mc lies at 47 db (measured in effective values) and that a signal-to-noise ratio of 55 db can be assigned to it for a discriminated noise measurement independent of the noise distribution. This also meets the requirement of the CCI for a single value of the permissible discriminated signal-to-noise ratio for long-distance television transmission (reference circuit 2500 km), which for the values proposed up to now for non-discriminated uniform and triangular noise can now be set at 54 db.

Okhotnikov, I. and Polyakov, L.
A VIDEO TAPE RECORDER. 17 Aug 60, 9p.
JPRS: 5339.
Order from OTS $0.50 60-41203

Trans. of Znaniye-Sila (USSR) 1960 [v. 35] no. 5, p. 38-39.

A magnetic tape device for the recording of television programs in the home is described in popular terms.

Shamshin, I. A. and Nyurenberg, V. A.
MEASUREMENT OF ATTENUATION OF DISTRIBUTOR FEEDER LINES FOR WIRE BROADCASTING BY THE SIGNAL ACCUMULATION METHOD.
1 July 60, 9p. (4 figs. omitted). USASIA: SC-120e/60; JPRS: R-868.
Order from OTS $0.50 60-31353.

Trans. of Vestnik Svyazi (USSR) 1960 [v. 20] no. 1, p. 8-10.

Willems, P.
THE KINEMATIC HIGH FREQUENCY PROCESS OF PROFESSOR WILLEMS. [1960] 4p. (12 figs. 2 refs. omitted) 68 refs.
Order from SLA mi$1.80, ph$1.80 60-18082

Trans. of reprint or advertisement from das Papier (West Germany) 1960, v. 14, no. 7.

Mechanical Engineering

Baldina, O. M. and Baytina, Ts. M.
EFFECT OF DEVICES INSTALLED IN THE DRUM UPON THE AMOUNT OF STEAM CARRIED INTO THE FALL TUBES (Vliyaniye Vnutribarabannykh Ustroist na Zakhvat para v Opusknyye Truby). Aug 60. 11p. 5 refs. RTS 1494.
Order from LC or SLA mi$2.40, ph$3.30 60-23757

Trans. of Teploenergetika (USSR) 1959, v. 6, no. 9, p. 46-50.

Gershteyn, Ye. G., Valk, Ye. G., and Syromyatnikov, V. M.
THE LIABILITY TO DAMAGE OF BATCH-PRODUCED STANDARD HIGH-PRESSURE BOILERS (O Povrezhadayemosti Seriinykh Unifitsirovannykh Kotlov Vysokogo Davleniya). Aug 60 [9]p. 1 ref. RTS 1442.
Order from LC or SLA mi$2.40, ph$3.30 60-23807

Trans. of Teploenergetika (USSR) 1959 [v. 6] no. 8, p. 30-33.

The article analyzes the statistical data on damage to boilers. (Author)

Yurchakevich, Yu. R.
IMPROVEMENT AND MODIFICATION OF THE STEAM SCRUBBING INSTALLATIONS AND STAGED EVAPORATION SYSTEM IN TP-170-1 BOILERS (Usovershenstvovaniye i Naladka Paropromyvochnykh Ustroystv i Stupenchatogo Ispareniya na Kotlakh TP-170-1). Aug 60 [13]p. 2 refs. RTS 1474.
Order from LC or SLA mi$2.40, ph$3.30 60-23568

Trans. of Teploenergetika (USSR) 1959 [v. 6] no. 8, p. 43-48.

The equipping of boilers with bubbling-type scrubbers has entirely proved itself. The steam delivered is of better quality. The percentage blowdown for salt contents of up to 3 000 mg/l of boiler water in the salt compartments is considerably lower.

Sanitation and Safety Engineering

Donat, A. M.
SPRAYER OF FINE-DISPERSED DUST (Raspylitel' Melkodispersnoy pyli). 19 Aug 60, 7p. Trans. V-1591.
Order from LC or SLA mi$1.80, ph$1.80 60-23728

Trans. of Gigiyena i Sanitariya (USSR) 1953 [v. 18] no. 7, p. 52-54.

A sprayer is described which permits a rigid proportioning of dust.

Krasnov, M. D., Yakobson, N. Z. and others.
METHOD OF AERIAL DUSTING FOR THE CONTROL OF TICKS (Metod Aviaopyleniya v Bor'be s Kleshchami). 22 Aug 60, 10p. Trans. V-1590.
Order from LC or SLA mi$1.80, ph$1.80 60-23727

Trans. of Voyenno-Meditsinskiy Zhurnal (USSR) 1959, no. 8, p. 42-45.

Ryazanov, V. A.
THE PROBLEM OF HYGIENIC NORMALIZATION IN THE FIELD OF SANITARY AIR PROTECTION (Problema Gigiyenicheskogo Normirovaniya v Oblasti Sanitarnoy Okhrany Atmosfernogo Vozdukha). 15 Aug 60, 20p. Trans. V-1589.
Order from LC or SLA mi$2.70, ph$4.80 60-23722

Trans. of Vsesoyuznyy S'ezd Gigiyenistov, Epidemiologov, Mikrobiologiv i Infektsionistov (no. 13) [held at] Moscow, 1956. Doklady, 1959, v. 1, p. 76-83.

A lecture.

Vashkov, V. I., Ginzburg, R. M., and Astaf'yeva, A. R.
STUDY OF THE EFFICACY OF THE FORMALIN METHOD OF DISINFECTION IN FOCAL DROPLET INFECTIONS (Izucheniye Effektivnosti Formalinovogo Metoda Disinfektsii v Ochage Kapel'nykh Infektsii). 17 Aug 60, 18p. Trans. V-1576.
Order from LC or SLA mi$2.40, ph$3.30 60-23709

Trans. of Tsentral'nyy Nauchno-issledovatel'skiy Dezinfektsionnyy Institut. Trudy (USSR) 1957, v. 10, p. 34-42.

The fluctuation range of the bactericidal concentration of formaldehyde is very high and depends on the temperature and humidity of the atmosphere and of the room. Tests showed that in the summer and spring months, formaldehyde in concentrations of 4 to 5 g/cu m, with a relative humidity of the air of at least 70%, destroyed Staphylococcus aureus and the hemolytic Streptococcus within 3 hours on open surfaces, but exposure to disinfection had to be prolonged to 22 hours to decontaminate the inside of the sleeves and pockets of military overcoats. During winter months, when the difference between room and atmospheric temperatures was at least 25 to 30°, an analogous bactericidal effect was achieved by employing 15 g/cu m, when free access to the surface was possible. The residual effect of formaldehyde was established by bacteriological and chemical tests. The method is not recommended for the control of droplet infections, however, because of its time consumption, high expenditure of the disinfection substance, high bactericidal-fluctuation range, and objectionable odor (and the long residual effect).

FOOD, HANDLING, AND PACKAGING EQUIPMENT

Food

A NEW PROCESS FOR THE CONTINUOUS MANUFACTURE OF CHOCOLATE AND COATINGS. [1960] 4p.
Order from ATS $6.00 ATS-64M43G

Trans. of Zucker- u[nd] Süsswarenwirtsch[aft] (West Germany) 1960 [v. 13] no. 10, p. 487-488.

ROYAL DECREE PERTAINING TO THE COLORING AGENTS FOR FOOD PRODUCTS. [1960] 7p.
Order from ATS $9.50 ATS-98M42F

Trans. of Moniteur Belge, 1959 [v. 129] p. 8492-8496.

MACHINERY, FABRICATION, AND ACCESSORY EQUIPMENT

Brichkin, A. V., Genbach, A. N. and others.
THEORETICAL AND ESTIMATING BASIS FOR A DESIGN OF A THERMAL DRILL (Teoreticheskiye i Raschotnyye Osnovy dlya Konstruirovaniya Termobura). Aug 60 [16]p. RTS 1450.
Order from LC or SLA mi$2.40, ph$3.30 60-23625

Trans. of Gornyy Zhurnal (USSR) 1957, no. 4, p. 24-30.

A thermal drill is described which consists of the burner, gland unit for a supply of oxygen, kerosene and water, and a drive from 3-kw motor for rotation of the drill at 25 to 30 rpm. The operating parts of the burner (combustion chamber, nozzle head and injector) are enclosed in the tube having water cooling.

Dechev, V. I.
AN INVESTIGATION OF PROFILE CASCADES OF A REVERSIBLE-FLOW PUMP-TURBINE IN A CAVITATION TUNNEL (Izucheniye Reshetok Profiley Obratimoy Nasos-turbiny v Gidrodinamicheskoy Trube). Aug 60 [19]p. 7 refs. RTS 1346.
Order from LC or SLA mi$2.70, ph$4.80 60-23804

Trans. of Izvestiya Vysshikh Uchebnykh Zavedeniy. Energetika (USSR) 1958 [v. 1] no. 10, p. 130-143.

Machine Parts and Mechanisms

Bashta, T. M.
DESIGN OF SEALS FOR ROTARY TYPE HYDRAULIC MACHINE SETS (Voprosy Konsruirovaniya Uplotnenii Gidravlicheskikh Agregatov Vrashchatel'nikh Tipov). Aug 60 [13]p. RTS 1145.
Order from LC or SLA mi$2.40, ph$3.30 60-23793

Trans. of Vestnik Mashinostroyeniya (USSR) 1958 [v. 38] no. 3, p. 24-27.

A survey.

Kovalevskiy, A. M.
INCREASING THE EFFICIENCY OF ANTI-FRICTION BEARINGS AND REDUCING SPECIFIC METAL CONSUMPTION (Novyy Sposob Povysheniya Rabotosposobnosti Podshipnikov Kacheniya i Snizheniya Udel'nogo Raskhoda Metalla). Aug 60 [15]p. RTS 1159.
Order from LC or SLA mi$2.40, ph$3.30 60-23797

Trans. of Vestnik Mashinostroyeniya (USSR) 1958 [v. 38] no. 8, p. 3-9.

A new method is described for increasing the load capacity and/or the service life of bearings without increasing their size or weight. The new method consists of changing the curvature surface in the loaded region. The curvature is so modified that the load is transmitted in a desired manner through all the rolling bodies situated in the zone of loading. The method is applicable only in bearings with a preferred direction of load (or where the angular range of the change of load direction does not exceed 90°).

Smirnov, B. I.
DETERMINATION OF THICKNESS OF BABBITT LINING FOR FRICTION BEARINGS (Obosnovaniye Tolshchiny Sloya Babbita Podshipnikov Skol'zheniya). Aug 60 [7]p. 1 ref. RTS 1156.
Order from LC or SLA mi$1.80, ph$1.80 60-23796

Trans. of Vestnik Mashinostroyeniya (USSR) 1958 [v. 38] no. 6, p. 26-28.

The shaft diameter should not affect the design thickness of the babbitt layer. This should be determined by the sum of three terms: the thickness required for adequate strength, the thickness corresponding to the maximum permitted wear and the thickness needed to compensate for inaccuracies in the manufacture of the bearing liner. The first contribution includes the maximum surface unevenness and must take account of the maximum particle size allowed through oil filters.

Stetsenko, A. K. and Lobshanidze, S. P.
IMPROVING THE WEARING PROPERTIES OF BUSH AND BUSH-ROLLER CHAINS (Povysheniye Iznosoustoychivosti Vtulochnykh i Vtulochno-rolikovykh Tsepey). July 60 [11]p. 4 refs. RTS 1140.
Order from LC or SLA mi$2.40, ph$3.30 60-23558

Trans. of Vestnik Mashinostroyeniya (USSR) 1958 [v. 38] no. 1, p. 27-30.

The use of phosphate coatings facilitated the running-in of rubbing surfaces of steel components. The wearing qualities of chains with phosphated elements showed a marked improvement over the ordinary chains.

Manufacturing Equipment and Processes

ACHIEVEMENTS IN TRACTOR AND AGRICULTURE MACHINERY MANUFACTURE IN 1959 AND GOALS FOR 1960. Soviet Agriculture Selected Trans. no. 26. 6 Sep 60, 5p. JPRS: 3835.
Order from OTS $0.50 60-31736

Trans. of Traktory i Sel'khozmashiny (USSR) 1960, no. 1, p. 1-2.

USSR MATERIALS AND MATERIALS PROCESSING EQUIPMENT [NO. 25, 8 SEP 60]. [1960] [42]p. 105 refs.
Order from LC or SLA mi$3.30, ph$7.80 60-23753

Trans. of unevaluated information selected from foreign-language periodicals.

Fomin, A. G.
EXPERIMENTAL ELECTROSLAG WELDING OF TYPE 1KH18N9T STEEL (Opym Elektroshlakovoy Svarki Stali Marki 1Kh18N9T). Aug 60 [8]p. RTS 1201.
Order from LC or SLA mi$1.80, ph$1.80 60-23670

Trans. of Svarochnoye Proizvodstvo (USSR) 1958, no. 12, p. 21-23.

The method developed for electroslag welding flanges of 1Kh18N9T steel 120 to 200 mm in width and 160 to 230 mm in height gives a high quality welded joint. The weld metal meets the requirements for flanges used in nitrogen and oxygen regenerators (impact strength at -180°C greater than 2 kgm/cm^2).

Kersting, E. and Wollansky, G.
RECORDER FOR VARIATIONS IN CROSS SECTION OF WIRES 10-250 MICRONS IN DIAMETER. Aug 60, 1800 words.
Order from HB $4.80 HB-4863
Trans. of Draht (West Germany) 1954, v. 5, no. 11, p. 418-420.

Kling, Hans.
SHUTOFF DEVICE FOR GAS OR LIQUID PIPELINES. [1960] 5p.
Order from LC or SLA mi$1.80, ph$1.80 60-18105

Trans. of German patent no. 845 292, cl. 47g, gr. 21/06, issued 31 July 52; patented in territory of Federal Republic of Germany 11 Feb 49, application no. p 33 901 XII/47g D, pub. 15 Nov 51, gr. 5 June 52, by Bossong-Werk.

Kogan, M. G. and Tuzlukova, V. A.
ULTRASONIC MACHINE FOR WORKING HARD MATERIALS (Ul'trazvukovoy Stanok dlya Obrabotki Tverdykh Materialov). Aug 60, 8p. RTS 1164.
Order from LC or SLA mi$1.80, ph$1.80 60-23756

Trans. of Vestnik Mashinostroyeniya (USSR) 1958 [v. 38] no. 11, p. 92-95.

The UZS-3M machine is described.

Kopylov, I. K.
COMMERCIAL FREQUENCY INDUCTION FURNACE FOR ANNEALING COPPER PIPES PRIOR TO COLD BENDING (Induktsionnaya Pech' Promyshlennoy Chastoty dlya Otzhiga Mednykh Trub pered Kholodnoy Gibkoy). Aug 60 [6]p. RTS 1161.
Order from LC or SLA mi$1.80, ph$1.80 60-23798

Trans. of Vestnik Mashinostroyeniya (USSR) 1958 [v. 38] no. 9, p. 34-35.

An electric induction furnace is described for annealing copper tubes ranging in sizes up to 220 mm bore and up to 5000 mm length. The furnace which operates on a commercial power supply (50 cycles per sec. frequency) has been in use for about a year.

Kulagin, I. D. and Nikolayev, A. V.
ARC PLASMA STREAM AS A SOURCE OF HEAT IN THE WORKING OF MATERIALS. [1960] 8p.
Order from ATS $14.00 ATS-42M43R

Trans. of *Svarochnoye Proizvodstvo (USSR) 1959, no. 9, p. 1-4.

Shneider, Yu. G.
FINISHING HOLES BY BALL ROLLING (Chistovaya Obrabotka Technykh Otverstii Paskatyvaniyem Sharikami). Aug 60 [6]p. RTS 1147.
Order from LC or SLA mi$1.80, ph$1.80 60-23794

Trans. of Vestnik Mashinostroyeniya (USSR) 1958 [v. 38] no. 3, p. 55-56.

The special features and merits of this method, as compared with previous ones, are (1) the absence of slip of the ball relative to the worked surface irrespective of operating conditions; (2) the possibility of obtaining a high quality finish (up to 10th class surface finish) in unheat treated steels and cast irons as well as (improving the strength of the metal using small pressures) 20 to 30 kg/sq cm on the balls; and (3) the stability of the rolling process.

Trakhtenberg, B. F.
CRITICAL REDUCTION IN ROLLING OF DYNAMO SHEET [Kriticheskiye Obzhatiya Dinammoy Stali]. Aug 60.
Order from HB $2.00 HB-4580

Trans. of *Metallov[edeniye i] Term[icheskaya] Obra[botka] Met[allov] (USSR) 1959, no. 5, p. 24-28.

Vasil'yev, K. V. and Isachenko, A. A.
HEATING BY PLASMA IN THE WELDING PROCESSES. [1960] 4p.
Order from ATS $7.75 ATS-43M43R

Trans. of *Svarochnoye Proizvodstvo (USSR) 1959, no. 9, p. 5-6.

Vlasov, A. P. and Ponomarev, A. J.
HIGH FREQUENCY METALLISATION (Vysokochastotnaya Metallizatsiya). Aug 60 [11]p. RTS 1151.
Order from LC or SLA mi$2.40, ph$3.30 60-23795

Trans. of Vestnik Mashinostroyeniya (USSR) 1958 [v. 38] no. 4, p. 59-62.

An apparatus for metallisation is described, which operates on the principle of melting the metal by high frequency induction heating, instead of by an external source of heat. While electric arc metallisation using steel 40 wire with a medium carbon content or a steel 45, ensures surface hardness of the coating in the order of 250 to 260 H_B, and by gas metallisation a hardness of 230 H_B; then high frequency metallisation under identical conditions ensures hardness up to 400 to 415 H_B.

Transport, Traction and Hoist Facilities

STEADY GROWTH OF THE YUGOSLAV RAILROAD TRANSPORTATION (Stalni Porast Prevosa na Jugoslovenskim Zeleznicama) tr. by Elida Barrett. [1960] 9p. H 4659 B.
Order from LC or SLA mi$1.80, ph$1.80 60-21199

Trans. from Zeleznice (Yugoslavia) 1957, Oct.

Information is presented on the work of the Yugoslav Railways in the first half of 1957.

STRIDES IN CHINESE AUTOMOBILE PRODUCTION (Skok v Cinske Vyrobe Automobilu) tr. by Vedral. [1959] 7p. (11 illus. omitted) H-3209.
Order from LC or SLA mi$1.80, ph$1.80 59-21022

Trans. of Svet Motoru (Czechoslovakia) 1958, 19 Dec, p. 814-815.

Several examples of Chinese automobiles and trucks are briefly described. It is announced that in the first half of 1958 there appeared at least 40 prototypes of trucks for various uses, 4 prototypes of passenger vehicles, and 120 prototypes of tractors and special-purpose vehicles.

TO THE FORTIETH ANNIVERSARY OF THE BIRTH OF SOVIET ARMED FORCES. THE WORLD'S BEST MECHANIZED ARMY (K 40. Vyrociu Zrodu Sovietskych Ozbrojenych Sil. Najlepsie Mechanizovana Armada Sveta) by ES. [1958] 7p. H-0921-b.
Order from LC or SLA mi$1.80, ph$1.80 59-11226

Trans. of Svet Motoru (Czechoslovakia) 1958, 14 Jan, p. 99.

An encomium of no scientific or technical value.

TRANSPORTATION, COMMUNICATIONS, AND ELECTRIC POWER IN THE USSR [NO. 32, 20 SEP 60]. [1960] [41]p. 74 refs.
Order from LC or SLA mi$3.30, ph$7.80 60-23782

Trans. of unevaluated information selected from Russian-language periodicals.

Cvetkovic, Borislav D.
PRINCIPLE EXPLOITATIONAL INDICATORS FOR LOCOMOTIVES [CONTINUATION] tr. by Elida Barrett. [1960] 8p. H 4659 A.
Order from LC or SLA mi$1.80, ph$1.80 60-21197

Trans. from Zeleznice (Yugoslavia) 1957, Oct.

Formulas are given for accounting for the daily number of complete trains, for calculating locomotive requirements (in the marshalling yards, in roundhouse shops, in mechanical repair shops, and awaiting dispatch), and for calculating the percentage of unserviceable locomotives.

Devouge, R.
THE MODERNIZATION OF TRACK MAINTENANCE OF THE RAILROADS IN THE CAMEROONS (La Modernisation de l'Entretien de la Voie aux Chemins de fer du Cameroun) tr. by Hesse. [1959] 5p. (4 illus. omitted). H-0162 B.
Order from LC or SLA mi$1.80, ph$1.80 59-14267

Trans. of Industries et Travaux d'Outremer (France) 1957 [v. 5] Oct [p. 723-725?].

Förster, H. J.
ON THE INFLUENCE OF FOETTINGER-TRANSMISSIONS UPON THE FUEL CONSUMPTION (Uber den Einfluss der Föttinger-Getriebe auf den Kraftstoffverbraunch). 1 July 60 [56]p. 19 refs.
Order from SLA mi$3.60, ph$9.30 60-18113

Trans. of ATZ; Automobiltechnische Zeitschrift (Germany) 1957, v. 59, no. 9, p. 239-246 and no. 12, p. 359-365.

Horak, O., comp.
MOSKVIC 423 WITH THE UNIVERSAL BODY STYLE (Moskvic 423 s Karoserii Universal) tr. by Hart. [1958] 5p. (1 sketch omitted). H-2493.
Order from LC or SLA mi$1.80, ph$1.80 59-11895

Trans. of Svet Motoru (Czechoslovakia) 1958, 28 Feb, p. 148-149.

Kaempfe, Guenther.
MOTOR VEHICLES AT THE LEIPZIG SPRING FAIR 1958 (Motorove Vozidla na Lipskom Jarnom Vel'trhu 1958) tr. by H. Vodral. [1958] [4]p. ACSI H 1576.
Order from LC or SLA mi$1.80, ph$1.80 59-11220

Trans. from Svet [Motoru] (Czechoslovakia) 1958, p. 210-211.

Kleynerman, Y.
NEW SOVIET AUTOMOBILES (Nove Soviyetske Automobily) tr. by Vedral. [1958] 10p. (13 illus. omitted) H-2220.
Order from LC or SLA mi$1.80, ph$1.80 59-11267

Trans. of Svet Motoru (Czechoslovakia) 1957, 7 June, p. 372-375.

Several dump trucks and cargo-vehicles are briefly described.

Markovic, Stevan A.
MOBILE ELECTRIC-POWERED SUBSTATIONS (Pokretne Elektrovvucne Potstanice) tr. by Elida Barrett. [1960] 5p. (5 figs. omitted). H 4654.
Order from LC or SLA mi$1.80, ph$1.80 60-21198

Trans. from Zeleznice (Yugoslavia) 1956, Mar.

Discussions are presented on the history of the use of mobile substations with electric railways, mobile electric-powered substations of the Yugoslav Railways, the production of mechanical wagon parts in the Yugoslav railway industry, and the significance and future of mobile electric-powered substations.

Segvic, Petar.
PORTS AND THE RAILROAD (Luke i Zeleznica) tr. by Elida Barrett. [1960] 8p. H 4655.
Order from LC or SLA mi$1.80, ph$1.80 60-21202

Trans. from Zeleznice (Yugoslavia) 1956, Feb.

Future prospects for the ports Rijeka, Sibenik, Split, Ploce, and Bar are surveyed. Problems concerning the railroad equipment are discussed for the ports of Rijeka, Sibenik, and Split.

Zatloukal, Emil.
TEN YEARS IN AUTOMOTIVE INDUSTRY SINCE THE VICTORIOUS FEBRUARY (Deset let Automobiloveho Prumyslu od Vitezneho Unora) tr. by H. V. [1958] 6p. H-0921-A.
Order from LC or SLA mi$1.80, ph$1.80 59-11245

Trans. of Svet Motoru (Czechoslovakia) 1958, 14 Jan, p. 97-98.

The automotive industry has been doing much better since Czechoslovakia went communist.

MATERIALS

Drinberg, A. Ya., Gurevich, Ye. S., and Tikhomirov, A. V.
TECHNOLOGY OF NON-METALLIC COATING. Oct 60, 547p.
Order from PP $15.00

Trans. of unidentified Russian mono.

Goksel, A.
INVESTIGATION OF THE HYDROTHERMAL REACTION IN THE SYSTEM ASBESTOS-CaO-SiO_2 AND THE UTILIZATION OF (SiO_2 + CaO) ON THE BASIS OF THE HYDROTHERMAL REACTION IN PLACE OF CEMENT IN THE MANUFACTURE OF ASBESTOS-CEMENT SHEETS. [1960] 3p.
Order from ATS $5.50 ATS-89M43G

Trans. of Istanbul U. [Fen Fakultesi Mecmuasi]. Rev[ue]. Ser. C. (Turkey) 1958, v. 23, no. 3, p. 197-200.

Rysanek, Antonin.
PREPARATION OF CONCENTRATED SYNTHETIC LATEXES. July/Aug 60, 10p. 7 refs.
Order from CTS(Chem) $8.20 subsequent copies $1.35/ea. CTS(Chem)-155

Trans. of Chem[icky] Prumysl (Czechoslovakia) 1960, v. 10, p. 100-102.

Ceramics and Refractories

CONFERENCE ON RAISING FURNACE OUTPUT. [1960] 2p.
Order from ATS $2.00 ATS-67M43R

Trans. of Steklo i Keram[ika] (USSR) 1960, v. 16, no. 11, p. 48.

Arghipoulos, B., Elston, J. and others.
ON A NEW METHOD OF PRODUCING NON-STOICHIOMETRIC, COLORED ALUMINA. June 60, 5p. 5 refs.
Order from SLA mi$1.80, ph$1.80 60-18093

Trans. of Academie des Sciences [Paris]. Comptes Rendus (France) 1959, v. 249, no. 23, p. 2549-2551.

A black alumina, showing a net oxygen deficit, can be prepared from pulverized, crystallized alumina when its ions are subjected to strains produced by the compression of the powder. (See also 60-22309)

Berezhnoy, A. S. and Karyakin, L. I.
THE STRUCTURE AND PROPERTIES OF THE SYSTEM MgO-ZrO_2-SiO_2. II. REACTIONS IN THE SOLID PHASE AND SINTERING IN THE SYSTEM MgO-ZrO_2-SiO_2 AND A GENERAL SUMMARY OF INVESTIGATIONS. Aug 53, [18]p. 2 refs. Trans. 296, M 1149.
Order from LC or SLA mi$2.40, ph$3.30 60-13953

Trans. of Ogneupory (USSR) 1952, v. 17, p. 211ff.

Fuels, Lubricants, and Hydraulic Fluids

THE TECHNICAL PROGRESS OF THE COAL INDUSTRY IN 1959 AND THE FIRST QUARTER OF 1960. 27 Sep 60, 10p. JPRS: 6001.
Order from OTS $0.50 60-31803

Trans. of Ugol' (USSR) 1960 [v. 35] no. 6, p. 1-5.

Aires, Raymond Spencer.
LIQUID FUEL FOR INTERNAL COMBUSTION ENGINES. [1960] 9p. 4 refs.
Order from LC or SLA mi$1.80, ph$1.80 60-18103

Trans. of German patent appl. 1 060 187, cl. $46a^6/7$, internat. cl. C 101, file no. S 52 205 IVc/$46a^6$, filed 4 Feb 57, announced and text laid open for inspection 25 June 59, by 'Shell' Research Ltd., London.

A liquid fuel for internal combustion engines is developed, containing an ester of a boronic or borinic acid, characterized in that the ester is an alkanolamine ester of a boronic or borinic acid in which a group with at least 3 carbon atoms is linked to the boron atom by a carbon-boron bond

Mikhul, K., Ruschor, K. and others.
FLUORESCENCE SPECTRA OF MOTOR FUELS. [1960] 5p. 8 refs.
Order from LC or SLA mi$1.80, ph$1.80 60-18077

Trans. of *Akad[emiya] Nauk SSSR. Izvestiya. Seriya Fiz[icheskaya] 1959, v. 23 [no. 1] p. 122-125.

Leather and Textiles

Danilov, S. N.
THE SUCCESS OF SYNTHETIC FIBER CHEMISTRY AND INDUSTRY DURING STALIN'S FIVE YEAR PLAN. [1960] 18p.
Order from LC or SLA mi$2.40, ph$3.30 60-18057

Trans. of [Zhurnal Prikladnoy Khimii] (USSR) 1942, v. 15, no. 6, p. 396-404.

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STUDIES OF THE MECHANISM OF THE MELT-SPINNING OF SYNTHETIC FIBERS; METHOD OF INVESTIGATION AND SOME DATA ON POLYAMIDE AND POLYESTER FIBERS. [1959] 7p.
Order from ATS $10.90 ATS-78M42R

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THE GAS PERMEABILITY OF CELLOPHANE AND CELLOPHANE-POLYETHYLENE FILMS AT VARIOUS RELATIVE HUMIDITIES. [1960] 17p. (6 figs. summary omitted) 12 refs.
Order from SLA mi$2.40, ph$3.30 60-18083

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Mikhaylov, G. P. and Borisova, T. I.
INVESTIGATION OF DIELECTRIC LOSSES AND POLARIZATION OF STEREOREGULAR POLY(METHYL METHACRYLATE). [1960] 8p.
Order from ATS $10.00 ATS-15M43R

Trans. of Vysokomolekulyarnyye Soyedineniya (USSR) 1960, v. 2, no. 4, p. 619-625.

Vlugter, J. C., Leendertse, J. J., and Mettivier-Meyer, R. H.
PRODUCTION OF VINYL CHLORIDE ON INDUSTRIAL SCALE. [1960] [15]p. 18 refs.
Order from SLA mi$2.40, ph$3.30 60-18059

Trans. of Chimica e l'Industria (Italy) 1951, v. 33, [no. 10] p. 613-619.

The process applied by the Shell Company in Holland for the industrial production of vinyl chloride is described in detail. Departing from ethylene and by means of chlorination, the 1, 2-dichloroethane is obtained, which is transformed into vinyl chloride by thermal decomposition at approximately 500°C.

Wood and Paper

Brecht, W. and Müller, F.
ON THE MEASUREMENT OF THE RIGIDITY OF PAPER, CARTON BOARD AND BOARD, I. [1960] 10p. (8 figs. omitted) 32 refs.
Order from SLA mi$1.80, ph$1.80 60-18098

Trans. of das Papier (West Germany) 1960, v. 14, no. 7, p. 270-277.

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THE PROBLEM OF FILLER RETENTION IN PAPER PRODUCTION (Das Problem der Füllstoffretention bei der Papierherstellung). [1960] [20]p. (foreign text included) 33 refs.
Order from SLA mi$2.40, ph$3.30 60-18084

Trans. of Wochenblatt für Papierfabrikation (West Germany) 1960, v. 88, no. 8, p. 299-308.

Stockman, L.
PROGRESS IN SWEDISH SULPHITE PULP RESEARCH. Aug 60, 8p. 3 refs. (10 figs. omitted).
Order from SLA mi$1.80, ph$1.80 60-18099

Trans. of das Papier (West Germany) 1960, v. 14, no. 3, p. 85-91.

The penetration of spruce chips by the sulphite cooking acid was investigated especially in dependence of the steaming and the pressure impregnation. The result of the penetration was evaluated partly by the ascertainment of screenings after the sulphite cooking, partly directly by weighing the chips during the phase of penetration. A combination of steaming and pressure impregnation gave the best results. A sulphite cooking with an aqueous solution of SO_2 is possible within a reasonable space of time on the condition that the digester will withstand a pressure of at least 15 atm. The pulps prepared in that way gave normal yields with normal properties. (Author).

Svaton, M. and Kubat, J.
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Order from ATS $16.00 ATS-26M43C

Trans. of Papir a Cel[l]ulosa (Czechoslovakia) 1959, v. 14, no. 10, p. 223-226.

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A METHOD OF EXTERMINATING SHIPWORMS OF THE FAMILY TEREDINIDAE BY ELECTRIC CURRENT (Metod Unichtozheniya Morskikh Dravotochtsev Sem. Teredinidae Elektricheskim Tokom) tr. by M. Slessers. 1960 [8]p. Trans-79.
Order from LC or SLA mi$1.80, ph$1.80 60-23768

Trans. of [Akademiya Nauk SSSR]. Okeanograficheskaya Komissiya. Byulleten', 1958, no. 1, p. 60-63.

MATHEMATICS

Lebedev, A. V. and Fedorova, R. M.
A GUIDE TO MATHEMATICAL TABLES, ed. by Panov. 15 Sep 60, 632p.
Order from PP $15.00

Trans. of unidentified Russian mono., n. p., n. d.

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AUTOMATIC RECOGNITION OF SPEECH. [1960] 14p. 45 refs.
Order from SLA mi$2.40, ph$3.30 60-18100

Trans. of NTZ; Nachrichtentechnische Zeitschrift (West Germany) 1958 [v. 11, no. 9] p. 446-454.

MECHANICS

Junev, V. V., Murzinov, I. N., and Ostapovich, O.N.
THE MOTION OF A THIN BLUNTED CONE WITH A SMALL ANGLE OF ATTACK AT A HIGH SUPERSONIC SPEED. 27 Sep 60, 8p. 6 refs. JPRS: 3985.
Order from OTS $0.50 60-31797

Trans. of Akademiya Nauk SSSR. O[tdeleniye] T[ekhnicheskikh] N[auk]. Izvestiya: Mekhanika i Mashinostroveniye, 1960, no. 3, p. 121-125.

Reuschel, A.
ON A UNIFORM KINEMATIC CONSTRUCTION PRINCIPLE FOR THE DETERMINATION OF THE CURVATURE OF CURVES AND ENVELOPES (Über ein Einheitliches Kinematisches Konstruktions-prinzip sur Ermittlung der Krümmung von Bahnkurven und Hüllbahnen). [1960] [35]p. 19 refs.
Order from SLA mi$3.00, ph$6.30 60-18028

Trans. of Österreichisches Ingenieur-Archiv (Austria) 1949, v. 3, no. 1, p. 9-23.

To every plane curve one can indicate, on the basis of its development or its characteristics, a plane constrained mechanism by whose motion a point C_m, of the system S_m, describes the given curve c_e on the system S_e while a straight line of S_m, passing through C_m, rolls without sliding upon the evolute of c_e. The instant center of the system S_e and S_m is, at the same time, the center of curvature of the curve c_e at the point corresponding to C_m. This paper shows how to find such a mechanism for a given curve and how to determine the curvature of the curve by means of the instant center plan belonging to the mechanism. The osculatory circles for a few geometrically and technically important curves are determined with the help of this simple and generally valid construction principle. The results obtained thereby represent, at the same time, a contribution to the graphical-kinematical treatment of the differential geometry of plane curves. (Author)

Yatsenko, V. F.
THE TREATMENT OF THE PROBLEM "THE SCIENTIFIC BASES OF STRENGTH AND PLASTICITY" BY THE INSTITUTES OF THE ACADEMY OF SCIENCES UkSSR IN 1958. 13 May 60, 11p. 2 refs. JPRS: 2619.
Order from OTS $0.50 60-11593

Trans. of Prykladna Mekhanika (USSR) 1959, v. 5, no. 3, p. 344-348.

Results are surveyed of researches on the engineering and physicomathematical aspects of the strength, plasticity and elasticity of solid bodies.

Hydrodynamics, Hydraulics, and Hydrostatics

Grodizovskiy, G. L., Dyukalov, A. N. and others.
AXIALLY SYMMETRICAL MERIDIAN FLOW OF A CONDUCTING FLUID; BALANCING THE PARAMETERS OF THE ROTATIONAL FLOW OF A VISCOUS FLUID. 20 June 60, 9p. 6 refs. JPRS: 2897.
Order from OTS $0.50 60-11802

Trans. of [Akademiya Nauk SSSR. Otdeleniye Tekhnicheskikh Nauk. Izvestiya: Mekhanika i Mashinostroyeniye] 1960, no. 1, p. 41-46.

It is shown that, in the case of the meridian flows of an incompressible conducting fluid, the equations of magnetohydrodynamics

$$v_x\frac{\partial v_x}{\partial x}+v_x\frac{\partial v_x}{\partial r}=-\frac{1}{\rho}\frac{\partial p}{\partial x}\quad\frac{1}{4\pi\rho}H_\theta\frac{\partial H_\theta}{\partial x}$$

$$v_x\frac{\partial v_r}{\partial x}+v_r\frac{\partial v_r}{\partial r}=-\frac{1}{\rho}\frac{\partial p}{\partial r}-\frac{1}{4\pi\rho}H_\theta\frac{1}{r}\frac{\partial(rH_\theta)}{\partial r}$$

$$\frac{\partial v_x}{\partial x}+\frac{\partial v_r}{\partial r}+\frac{v_r}{r}=0$$

and

$$\frac{\partial}{\partial x}(v_xH_\theta)+\frac{\partial}{\partial r}(v_rH_\theta)=\frac{c^2}{4\pi\sigma}\frac{\partial^2H}{\partial r^2}+\frac{\partial^2H}{\partial r^2}+\frac{1}{r}\frac{\partial H_\theta}{\partial r}-\frac{H_\theta}{r^2}$$

permit a class of automatically scaled solutions: independent variables and the defining parameters are r, x, c^2/σ, and ρ. A differential equation is derived for defining the process of balancing some given small nonuniformity of velocities along x.

Pavlikhina, M. A. and Smirnov, L. P.
THE VORTEX WAKE ACCOMPANYING FLOW PAST OSCILLATING CYLINDERS. [1960] 7p.
Order from ATS $11.00 ATS-49M42R

Trans. of Akad[emiya] Nauk SSSR. Otdel[eniye] Tekh[nicheskikh] Nauk. Izvest[iya] 1958, no. 8, p. 124-127.

Reichardt, H.
THE LAWS OF CAVITATION BUBBLES AT AXIALLY SYMMETRICAL BODIES IN A FLOW. 15 Aug 46 [43]p. 5 refs. M. A. P. Volkenrode Ref: MAP-VG 69-166T; G.D.C.-10/4486T.
Order from LC or SLA mi$3.30, ph$7.80 60-23144

Trans. of unidentified mono. by Kaiser Wilhelm Institut für Strömungsforschung, Göttingen, 25 Oct 45

Cavitation bubbles occurring in the rear of axially symmetrical bodies were investigated in the free-jet cavitation plant of the Kaiser Wilhelm Institut für Strömungsforschung for various body shapes and cavitation numbers. The quantities measured were the diameter d of the separation cross section, the maximum bubble diameter d_m, the bubble length l, the resistance number c_w, and the cavitation number ϑ_k. By combining these quantities in agreement with theory, general functions of the cavitation number were obtained at which the influence of the special body shape is no more recognizable. The following quantities in the first approximation are dependent on the cavitation number only: (1) the general drag coefficient c_{wm} referred to the maximum bubble cross section; and (2) the axis-ratio d_m/l of the bubbles. It follows immediately that approximately also (3) the reciprocal bubble width in the non-dimensional form $\sqrt{c_w}\, d/d_m$ and (4) the reciprocal bubble length in the non-dimensional form $\sqrt{c_w}\, d/l$ are dependent on the cavitation number only. The present results agree with theoretical investigations of axially symmetrical source-sink-bodies with mostly constant pressure distribution. (Author)

METALLURGY

Abdeyev, M. A.
ON THE PROBLEM OF THE CONVERTING OF MIXED MATTES (K Voprosu Konvertirovaniya Polimetallicheskikh Shteynov). Aug 60 [21]p. 18 refs. RTS 1461.
Order from LC or SLA mi$2.70, ph$4.80 60-23628

Trans. of Akademiya Nauk Kazakhskoy SSR [Alma-Ata]. Altayskiy Gorno-Metallurgicheskiy Nauchno-Issledovatel'skiy Institut. Trudy, 1957, v. 4, p. 69-83.

Arkharov, V. I. and Borisov, B. S.
THE EFFECTS OF ALLOYING ELEMENTS ON THE HEAT RESISTANCE OF ALLOYS AND COHESIVE FORCE IN LATTICES OF THE OXIDE PHASES IN SCALE. 1. THE EFFECT OF CHROMIUM ON THE COHESIVE FORCES IN HEMATITE (Vliyaniye Legiruyushchikh Elementov na Zharostoykost' Splavov i Sily Svyazi v Reshetkakh Oksidnykh Faz v Okaline. 1. Vliyaniye Khroma na Sily Svyazi v Gematite). [1960] 13p. (refs. [tables] omitted).
Available on loan from SLA 60-16990

Trans. of Fizika Metallov i Metallovedeniye (USSR) 1956, v. 3, no. 3, p. 471-476.

Assonov, A. D.
A NEW PROCESS FOR HEAT TREATING OF FORGINGS [Novyy Protsess Termicheskoy Obrabotki Pokovok]. Aug 60.
Order from HB $2.00 HB-4585

Trans. of *Metallov[edeniye i] Term[icheskaya] Obra[botka] Met[allov] (USSR) 1959, no. 5, p. 51.

Balandin, G. F. and others.
CASTING OF METALS WITH THE POURING SYSTEM [INSTEAD OF THE MOLD] BEING VIBRATED. Aug 60, 1600 words.
Order from HB $4.45 HB-4908

Trans. of Liteynoye Proizvodstvo (USSR) 1960, no. 7, p. 34-36.

Burovoy, I. A., Krichevskiy, G. Ya., and Shtokarev, A. M.
DEVELOPMENT OF EQUIPMENT FOR REMOVAL OF EXCESS HEAT FROM A FLUIDIZED BED IN ROASTING GRANULATED COPPER-ZINC CONCENTRATES AT A HIGH PRODUCTIVITY (Razrabotka Ustroystv Ot'yema Izbytochnogo Tepla Kipyashchego Kontsentrata pri Vysokoy Proizvoditel'nosti). July 60 [12]p. 3 refs. RTS 1408.
Order from LC or SLA mi$2.40, ph$3.30 60-23565

Trans. of Tsvetnyye Metally (USSR) 1958, v. 31, no. 3, p. 30-38.

Fluidized bed roasting of copper-zinc granulated concentrate has been utilized on a semi-industrial scale with a capacity of up to 38 t/m^2 per 24 hours (Up to 13 t of sulphur/m^2 per 24 hours). Heat exchange systems for cooling the fluidized bed have been worked out and tested on a semi-industrial scale, excess heat being removed at rates up to 530 000 kcal/m^3 of bed (which corresponds to the above mentioned productivity). The heat-exchange systems are recommended for an industrial-scale application. (Author)

Glazov, V. M., Zakharov, M. V., and Stepanova, M. V.
THE EFFECT OF THE PHASE COMPOSITION UPON THE HIGH-TEMPERATURE STRENGTH OF THE ALLOYS OF COPPER-CHROMIUM-ZIRCONIUM SYSTEM (Vliyaniye Fazovogo Sostava na Zharoprochnost' Splavov Sistemy Med'-khrom-tsirkoniy). 21 Feb 58, 7p. (refs. 3 figs. 2 formulas omitted).
Available on loan from SLA 60-18054

Trans. of Akademiya Nauk SSSR. Otdeleniye Tekhnicheskikh Nauk. Izvestiya, 1957, no. 9, p. 123-126.

Kaybichev, A. V. and Chernobrovkin, V. P.
ON THE MELTING LOSS OF ELEMENTS IN CUPOLA OPERATION. Aug 60, 2600 words.
Order from HB $4.90 HB-4877

Trans. of Izv[estiya] V[ysshikh] U[chebnykh] Z[avedeniy]. Chern[aya] Met[allurgiya] (USSR) 1959, no. 11, p. 113-118.

Koval'chenko, M. S. and others.
ALLOYS OF TRANSITION-METAL BORIDES WITH OTHER METALS. Aug 60, 2200 words.
Order from HB $4.80 HB-4853

Trans. of Akad[emiya] Nauk SSSR. O[tdeleniye] T[ekhnicheskikh] N[auk]. Izvest[iya]: Met[allurgiya i] Toplivo, 1960, no. 2, p. 115-119.

Lyubavskiy, K. V.
INTERACTION BETWEEN ELEMENTS WITH THEIR OXIDES IN WELD PUDDLES. Aug 60, 1800 words.
Order from HB $4.75 HB-4861

Trans. of Avtogennoye Delo (USSR) 1948, v. 19, no. 10, p. 30-31.

Novikov, I. I. and Dautova, L. I.
THE RELATION OF RELATIVE HEAT RESISTANCE TO COMPOSITION IN THE Cu-Ni-Si SYSTEM (Zavisimost' Otnositel'noy Zharoprochnosti ot Sostava v Sisteme Cu-Ni-Si). [1960] 4p. (3 figs. refs. omitted).
Available on loan from SLA 60-16940

Trans. of Akademiya Nauk SSSR. Doklady, 1957, v. 115, no. 1, p. 110-113.

Shobayashi, K. and Okamoto, Y. K.
CINE-RADIOGRAPHIC STUDY OF THE FLOW OF METALS IN SHELL MOLDS, USING AN IMAGE INTENSIFIER. Aug 60, 1300 words.
Order from HB $3.85 HB-4911

Trans. of Instituto del Hierro y del Acero (Spain) 1960, v. 13, May, spec. no. 67, p. 432-435.

Trapeznikov, V. A. and Nemnonov, S. A.
A STUDY OF COHESIVE FORCES IN IRON-MOLYBDENUM SOLID SOLUTIONS FROM FINE STRUCTURE X-RAY ABSORPTION SPECTRA (Izucheniye Sil Svyazi v Tverdykh Rastvorakh Zhelezo-molibden po Tonkoy Strukture Rentgenovskikh Spectrov Pogloshcheniya). 20 Sep 57, 9p. (figs. refs. 2 tables 3 equations omitted).
Available on loan from SLA 60-16993

Trans. of Fizika Metallov i Metallovedeniye (USSR) 1956, v. 3, no. 2, p. 314-320.

Tselikov, A. I.
NEW PRODUCTION PROCESSES AS A BASIS FOR AUTOMATION IN THE PLASTIC WORKING OF METALS. Aug 60, 3900 words.
Order from HB $9.75 HB-4862

Trans. of Akad[emiya] Nauk SSSR. O[tdeleniye] T[ekhnicheskikh] N[auk]. Izvest[iya]: Met[allurgiya i] Toplivo, 1959, no. 5, p. 3-10.

Ferrous Metals

Alekseyenko, M. F., Lashko, N. F. and others.
PHASE ANALYSIS OF HEAT RESISTING CONSTRUCTIONAL STEELS [Fazovyy Analiz Teplostoykikh Konstruktsionnykh Staley]. Aug 60.
Order from HB $2.00 HB-4586

Trans. of *Metallov[edeniye i] Term[icheskaya] Obra[botka] Met[allov] (USSR) 1959, no. 5, p. 52-54.

Apayev, B. A.
STRUCTURAL TRANSFORMATIONS IN PLAIN CARBON STEELS WHILE BEING MECHANICALLY TESTED. Aug 60, 700 words.
Order from HB $2.50 HB-4901

Trans. of Izv[estiya] V[ysshikh] U[chebnykh] Z[avedeniy]. Chern[aya] Met[allurgiya] (USSR) 1960, no. 5, p. 91-92.

Belov, V. M. and Kazennov, S. A.
PRESSURE DIE CASTING OF STEEL. Aug 60, 5400 words.
Order from HB $13.75 HB-4847

Trans. of Liteynoye Proizvodstvo (USSR) 1959, no. 10, p. 12-17.

Castro, R. and Garnier, P.
DECOMPOSITION STRUCTURES OF AUSTENITIC MANGANESE STEEL. Aug 60.
Order from HB $2.00 HB-4591

Trans. of Revue de Metallurgie (France) 1958, v. 55, no. 1, p. 24-33.

Fedorovich, V. G. and Karp, S. F.
USE OF ORE-LIMESTONE BRIQUETS IN OXYGEN SIDE-BLOWN CONVERTER FOR REFINING HIGH-PHOSPHORUS IRON. Aug 60, 1800 words.
Order from HB $4.90 HB-4767

Trans. of Izv[estiya] V[ysshikh] U[chebnykh] Z[avedeniy]. Chern[aya] Met[allurgiya] (USSR) 1959, no. 7, p. 35-39.

Holzhey, J. and Arnold, K.-H.
EXPERIMENTAL RESULTS ON THE PRODUCTION OF FLUXED SINTER. Aug 60, 7500 words.
Order from HB $18.75 HB-4791

Trans. of Heue Hütte (East Germany) 1959, v. 4, no. 12, p. 707-715.

Karasev, V. P. and Ageyev, P. Ya.
POSSIBLE WAYS OF ACCELERATING THE DEOXIDATION OF ELECTRIC FURNACE STEEL. Aug 60, 3100 words.
Order from HB $7.60 HB-4859

Trans. of Izv[estiya] V[ysshikh] U[chebnykh] Z[avedeniy]. Chern[aya] Met[allurgiya] (USSR) 1959, no. 12, p. 57-64.

Kishkin, S. T. and Klypin, A. A.
EFFECT OF REPEATED HEATING AND COOLING ON THE PROPERTIES OF STEELS AND ALLOYS [Vliyaniye Mnogokratnykh Nagrevov i Okhlazhdeniy na Izmeneniye Svoystv Staley i Splavov]. Aug 60.
Order from HB $2.00 HB-4578

Trans. of *Metallov[edeniye i] Term[icheskaya] Obra[botka] Met[allov] (USSR) 1959, no. 5, p. 15-19.

Lipchin, N. N. and Sten'kin, P. A.
AUSTEMPERING OF CARBON STEELS FROM HIGH TEMPERATURES [Izotermicheskaya Zakalka Uglerodistykh Staley s Vysokikh Temperatur Nagreva]. Aug 60.
Order from HB $2.00 HB-4590

Trans. of *Metallov[edeniye i] Term[icheskaya] Obra[botka] Met[allov] (USSR) 1959, no. 5, p. 59-60

Nazarenko, G. T.
DECOMPOSITION RANGE FOR RETAINED AUSTENITE IN CARBON STEELS DURING TEMPERING [Temperaturnyy Interval Raspada Ostatochnogo Austenita pri Otpuske Uglerodistykh Staley]. Aug 60.
Order from HB $2.00 HB-4581

Trans. of *Metallov[edeniye i] Term[icheskaya] Obra[botka] Met[allov] (USSR) 1959, no. 5, p. 28-30.

Petropavlovskaya, Z. N., Borzdyka, A. M., and Merlina, A. V.
RELAXATION RESISTANCE OF HIGH CHROMIUM STEEL [Relaksatsionnaya Stoykost' Vysokokhromistoy Stali]. Aug 60.
Order from HB $2.00 HB-4584

Trans. of *Metallov[edeniye i] Term[icheskaya] Obra[botka] Met[allov] (USSR) 1959, no. 5, p. 45-50.

Silayev, A. F. and Dubrovskaya, Ye. F.
EFFECT OF SULFUR ON THE MECHANICAL AND HEAT RESISTING PROPERTIES OF PEARLITIC CAST STEEL 15Kh1M1FB [Vliyaniye Sery na Mekhanicheskiye i Zharoprochnyye Svoystva Perlitnoy Litoy Stali 15Kh1M1FB]. Aug 60.
Order from HB $2.00 HB-4583

Trans. of *Metallov[edeniye i] Term[icheskaya] Obra[botka] Met[allov] (USSR) 1959, no. 5, p. 40-44

Sokolov, B. K. and Sadovskiy, B. D.
MECHANISM OF AUSTENITE FORMATION DURING THE HEATING OF STEEL [O Strukturnom Mekhanizme Obrazovaniya Austenita pri Nagreve Staley]. Aug 60.
Order from HB $2.00 HB-4577

Trans. of *Metallov[edeniye i] Term[icheskaya] Obra[botka] Met[allov] (USSR) 1959, no. 5, p. 7-14.

Tarasov, A. M.
EFFECT OF BORON ON EMBRITTLEMENT OF CONSTRUCTIONAL STEEL DURING TEMPERING [Vliyaniye Bora na Khrupkost' pri Otpuske Konstruktsionnoy Stali]. Aug 60.
Order from HB $2.00 HB-4587

Trans. of *Metallov[edeniye i] Term[icheskaya] Obra[botka] Met[allov] (USSR) 1959, no. 5, p. 54-57.

Terminasov, Yu. S. and Yakhontov, A. G.
DISTORTION OF LATTICE STRUCTURE OF METALS BY GRINDING [Vliyaniye Shlifovaniya na Iskazheniya Kristallicheskoy Struktury Metallov]. Aug 60.
Order from HB $2.00 HB-4579

Trans. of *Metallov[edeniye i] Term[icheskaya] Obra[botka] Met[allov] (USSR) 1959, no. 5, p. 19-23.

Tichler, P.
A FULLY AUTOMATIC METHOD OF WELDING A LAYER OF STEEL ONTO A VERY THICK SHEET OF STEEL. [1960] 4p.
Order from ATS $6.90 ATS-79M42DU

Trans. Lastechniek (Netherlands) 1959, v. 25, p. 229-231.

Treppschuh, H. and others.
RADIOISOTOPE STUDIES OF EROSION AND CORROSION OF POURING SYSTEM REFRACTORIES AND EFFECT ON CLEANNESS OF ALLOY CONSTRUCTIONAL STEEL POURED. Aug 60, 3900 words.
Order from HB $9.65 HB-4878

Trans. of Stahl und Eisen (West Germany) 1960, v. 80, no. 13, p. 878-882.

Zdenek, Z. and others.
REFINING OF OPEN-HEARTH AND SEMI-BASIC-CONVERTER PIG IRONS BY OXYGEN TOP-BLOWING. Aug 60, 3500 words.
Order from HB $8.75 HB-4773

Trans. of Hutnicke Listy (Czechoslovakia) 1959, v. 14, no. 12, p. 1073-1077.

Zholdak, A. A.
BRIGHT AUSTEMPERING OF SPRINGS OF 50KhFA STEEL [Svetlaya Izotermicheskaya Zakalka Pruzhin iz Stali 50KhFA]. Aug 60.
Order from HB $2.00 HB-4588

Trans. of *Metallov[edeniye i] Term[icheskaya] Obra[botka] Met[allov] (USSR) 1959, no. 5, p. 57.

Light Metals

ALUMINUM ALLOYS. A. PLASTIC ALUMINUM ALLOYS. B. ALUMINIUM CASTING ALLOYS. [1960] 19p.
Order from SLA mi$2.40, ph$3.30 60-14656

Trans. of German standards specification DIN-1713, n. d.

Noskova, N. I., Pavlov, V. A., and Yunikov, B. A.
X-RAY STUDIES OF DISTORTION AND COHESIVE FORCES IN THE CRYSTAL LATTICE OF ALLOYS OF AN [α]-SOLID SOLUTION OF ALUMINUM AND MAGNESIUM (Rentgenograficheskiye Issledovaniya Iskazheniy i Sil Svyazi v Kristallicheskoy Reshetke Splava [α]-Tverdogo Rastvora Alyuminiya c Magniyem). 3 Sep 57, 5p. (tables refs. 5 figs. omitted).
Available on loan from SLA 60-16988

Trans. of Fizika Metallov i Metallovedeniye (USSR) 1956, v. 3, no. 3, p. 557-560.

Nonferrous (except light) Metals

Snurnikov, A. P.
CLASSIFYING ZINC ASHES (DISCUSSION SERIES) (Klassifikatsiya Tsinkovogo Ogarka). Aug 60 [7]p. RTS 1407.
Order from LC or SLA mi$1.80, ph$1.80 60-23621

Trans. of Tsvetnyye Metally (USSR) 1958, v. 31, no. 2, p. 36-39.

The selection of the method of classifying the ashes must be carried out with consideration of the requirements conditioned by the quality of the ashes for leaching. Investigations and practice in modern electrolytic zinc works have shown that only the fine fractions of a size between 0.15 and 0.20 mm should be used. The production of fine fractions and their use in the neutralization of the pulp, and the hydrolytic purification of the solutions, is best obtained with dry grading of the material. The design of transporting devices for ashes must correspond to the requirements for cooling, apportioning and evaluation of material and must ensure normal conditions of labour.

Structural Metallurgy and Corrosion

Defranoux, J. M.
APPLICATION OF THE POLARIZATION CURVE TO THE EXAMINATION OF LOCAL CORROSION OF STAINLESS STEELS. [1960] 7p.
Order from ATS $9.00 ATS-75M41G

Trans. of Werkstoffe u[nd] Korrosion (West Germany) 1959 [v. 10] no. 7, p. 425-429.

Gerischer, H. and Beck, F.
THE CORROSION POTENTIAL OF GERMANIUM AND ITS DEPENDENCE ON DOPING, CORROSION RATE, AND ILLUMINATION. July 60, 27p. 9 refs.
Order from SLA mi$2.70, ph$4.80 60-18090

Trans. of Zeitschrift für Physikalische Chemie [Frankfurt] (West Germany) 1960, N[eue] F[olge] v. 23, no. 1/2, p. 113-132.

The corrosion behavior of p- and n-type germanium in oxidizing solutions is investigated. The behavior of germanium can be explained by a superimposition of anodic and cathodic partial processes. p-Type germanium does not show any particular characteristic features compared with the corrosion of metals. n-Type germanium shows a close coupling between the anodic and the cathodic partial processes which is brought about by holes participating in the two processes. As a result of corrosion, holes and electrons are injected into the surface at the same rate; this has the same effect as hole-electron pair generation due to illumination in the inversion layer of n-type germanium. The resulting differences of corrosion potential of n- and p-type germanium as an analog to the photovoltage on a p-n junction are discussed. (Author)

Likhtman, V. I. and Rebinder, P. A.
ELASTIC AFTEREFFECT IN SINGLE CRYSTALS OF TIN SUBJECTED TO PLASTIC FLOW. Aug 60, 1500 words.
Order from HB $4.00 HB-4846

Trans. of Akad[emiya] Nauk SSSR. Doklady, 1947, v. 57, no. 1, p. 53-56.

Lozinskiy, M. G. and Sinodova, Ye. P.
TEMPERATURE DEPENDENCE OF THE HARDNESS OF IRON-MOLYBDENUM AND NICKEL-MOLYBDENUM ALLOYS [Issledovaniye Temperaturnoy Zavisimosti Tverdosti Zhelezomolibdenovykh Splavov]. Aug 60.
Order from HB $2.00 HB-4582

Trans. of *Metallov[edeniye i] Term[icheskaya] Obra[botka] Met[allov] (USSR) 1959, no. 5, p. 35-40.

Nikiforov, I. A.
CUTTING THE HEAT TREATING TIME FOR ALUMINUM ALLOY A19 [Sokrashcheniye Rezhima Termicheskoy Obrabotki Detaley iz Splava A19]. Aug 60.
Order from HB $2.00 HB-4589

Trans. of *Metallov[edeniye i] Term[icheskaya] Obra[botka] Met[allov] (USSR) 1959, no. 5. p. 58-59.

Novikov, I. I. and others.
MECHANISM OF GRAIN REFINEMENT BY LOW-FREQUENCY VIBRATIONS DURING CRYSTALLIZATION [OF METALS]. Aug 60, 1300 words.
Order from HB $3.75 HB-4900

Trans. of Izv[estiya] V[ysshikh] U[chebnykh] Z[avedeniy]. Chern[aya] Met[allurgiya] (USSR) 1960, no. 5, p. 130-134.

Pavlov, S. Ye., Ambartsumyan, S. M., and Khigalova, K. A.
CORROSION AND PROTECTION OF HIGH STRENGTH ALUMINIUM ALLOYS (Korroziya i Zashchita Vysokoprochnykh Alyuminiyevkh Splavov). Aug 60 [3]p. RTS 1347.
Order from LC or SLA mi$1.80, ph$1.80 60-23616

Trans. of Vsesoyuznoye Nauchno-tekhnicheskiye Soveshchaniye po Korrozii i Zashchite Metallov, 19-24 May 58 [Moscow]. Programma, sect. 1: General Corrosion, sub-sect. 1: Corrosion and Protection of High Strength Al Alloys, p. 22-23.

Tomashov, N. D. and Al'tovskiy, R. M.
THE STUDY OF THE MECHANISM OF ELECTROCHEMICAL CORROSION OF TITANIUM. I. THE CORROSION AND ELECTROCHEMICAL PROPERTIES OF TITANIUM IN SULPHURIC ACID IN PRESENCE OF HALOGEN IONS (Issledovaniye Mekhanizma Elektrokhimicheskoy Korrozii Titana. I. Vliyaniye Galoidnykh Ionev na Korrozionnoye i Elektrokhimicheskoye Povedeniye Titana v Sernoy Kislote). Aug 60 [9]p. 13 refs. RTS 1510.
Order from LC or SLA mi$2.40, ph$3.30 60-23812

Trans. of Zhurnal Fizicheskoy Khimii (USSR) 1959, v. 33, no. 3, p. 610-616.

Experiments show that a protective oxide layer controls the corrosion properties of titanium. This layer can undergo self renewal in neutral and slightly acid solutions, even in the presence of large concentrations of chloride ions. The dissolution of titanium in sulphuric acid proceeds according to the laws of electrochemical kinetics. Halogen ions hinder the electrode processes of hydrogen depolarisation and anodic dissolution of titanium. Small additions of I' ion to sulphuric acid in air passivate titanium. The passivation manifests itself in the formation of an adsorbed or chemisorbed layer of iodide and titanium as a protective film. The complex I_3' ion, formed by air oxidation of I' ion, plays a fundamental part in this passivation. The Cl' and Br' ions activate titanium in dilute solutions, where it is passive, and inhibit in more concentrated solutions, where it is active. The corrosion inhibition is due to the formation on the surface of the metal of an adsorbed or chemisorbed layer of halogen and titanium.

NUCLEAR PHYSICS AND NUCLEAR CHEMISTRY

Kuznetsov, V. I. and Akimova, T. G.
COPRECIPITATION OF Pu(IV) WITH ORGANIC COPRECIPITANTS. 30 Aug 60, 7p. 5 refs. JPRS: 5150.
Order from OTS $0.50 60-41048

Trans. of *Atomnaya Energiya (USSR) 1960, v. 8 [no. 2] p. 148-150.

Mayr, G.
CONTRIBUTION OF NUCLEAR EMULSIONS TO THE STUDY OF SOME CASES OF MICRORADIOCHEMICAL ANALYSIS (DETERMINATION OF RADIOISOTOPES). [1960] 6p.
Order from ATS $9.00 ATS-61M43I

Trans. of la Ricerca Sci[entifica ed il Progresso Technica nell'Economia Nazionale] (Italy) 1959, v. 29, no. 4, p. 804-809.

Instruments and Installations

Hölz, R. and Löb, H.
INVESTIGATIONS OF A HIGH-FREQUENCY SOURCE. [1960] [19]p. 13 refs.
Order from SLA mi$2.40, ph$3.30 60-18049

Trans. of Zeitschr[ift für] Naturforsch[un]g (West Germany) 1958, v. 13a [no. 8] p. 602-608.

The optimum operating conditions for the largest possible energy- and mass-homogeneous ion current are determined for an ion beam apparatus consisting of a high-frequency ion source, after-acceleration, and mass separation. We have attempted especially to increase the ion source yield. The effect of a static magnetic field on the discharge has been investigated. This concerns not only ions which leave the source practically with only thermal energy, but also abnormal differential ionization of helium ions in hydrogen occurring only under certain conditions. This differential ionization presumably is caused by participation of metastable ions. (Author)

Sommeria, J.
A NEW PRINCIPLE OF A HIGH-INTENSITY ION SOURCE. [1960] [4]p. 2 refs.
Order from SLA mi$1.80, ph$1.80 60-18042

Trans. of Journal de Physique et Le Radium (France) 1951, v. 12, [no. 4] p. 563-564.

The ion source is an extension of a source described by Heil (Z. Physik. 120: 212-226, 1942) and Von Ardenne (Physik. Z. 43: 5-6, 91, 1942), with an annular system. The ion beam obtained has a tubular form very advantageous from the point of view of the dispersion effects which are due to its space charge; this makes it possible to attain a very high intensity.

PHYSICS

Hellenthal, W.
THE COERCIVE FORCE OF THIN NICKEL EVAPORATION FILMS MEASURED IN THE ALTERNATING MAGNETIC FIELD AS A FUNCTION OF THE FREQUENCY. July 60, 6p. 12 refs.
Order from SLA mi$1.80, ph$1.80 60-18070

Trans. of Zeitschrift für Naturforschung (West Germany) 1959, v. 14a, no. 12, p. 1077-1078.

The measurements always exhibited an increase of the coercive force in the range from 30 c to 10 kc; this increase is substantially lower at the upper end of the frequency range.

Klyukin, I. I.
INDICATION ERROR OF AN ACCELEROMETER RESULTING FROM REACTION WITH A VIBRATING SURFACE, tr. by B. W. Kuvshinoff. 6 July 60 [14]p. 5 refs. TG-230-T128.
Order from OTS $0.50 60-21785

Trans. of *Izmeritel'naya Tekhnika (USSR) 1958, no. 6, p. 30-35.

Accelerometers of finite mass exert a measurable effect on a vibrating body. The magnitude of this effect, and consequently the error in the accelerometer indications increase with increasing frequency. Especially great are the errors made in measuring vibration levels in thin plates and rods with heavy accelerometers. The order of the errors in accelerometer indications resulting from its inertia on a plate in which bending waves are propagating can be determined with the formulas given. When measuring the average vibration levels in a range of frequencies, the error resulting from the inertia of the accelerometer acting on the vibrating body is inseparable from the measurement results. The magnitude of this error depends largely on the form of the frequency spectrum of the vibrations being measured. (Applied Physics Lab. abstract)

Lareymondie, Marc de Lacoste, Salmon, Jean, and Wajsbrum, Joseph.
OPERATING CONDITIONS OF A RADIOFREQUENCY ION SOURCE. [1960] [13]p. 5 refs.
Order from SLA mi$2.40, ph$3.30 60-18045

Trans. of Journal de Physique et le Radium (France) 1954, v. 15 [no. 2] p. 117-121.

Matthews, I. G.
FLUORESCENCE SPECTRA OF NATURAL AND IRRADIATED DIAMONDS (Spectres de Fluorescence des Diaments Naturels et Irradiés) tr. by Marcel I. Weinreich. 4 June 59, 4p. 2 refs.
Order from LC or SLA mi$1.80, ph$1.80 SCL-T-254

Trans. of le Journal de Physique et le Radium (France) 1956, v. 17 [no. 8/9] p. 649.

The emission spectra of the luminescent centers, excited in the diamonds of the type I by the group of rays of mercury at 3,650 Å (systems of 4,150 and 5,032 Å), was compared with the measurements of the absorption of the same specimens, made by C. D. Clark et al. (Proc. Roy. Soc. London [A]234: 363, 1956). A slight emission originated from those two centers in the majority of the diamonds of the type IIa. (Author)

Philip, Roger.
CHANGES IN THE OPTICAL PROPERTIES OF A THIN SILVER FILM AS A FUNCTION OF THE WAVELENGTH (Variations de Proprietes Optiques d'une Couche Mince d'Argent en Fonction de la Longueur d'Onde). [1960] 3p. 6 refs.
Order from SLA mi$1.80, ph$1.80 60-16997

Trans. of [Academie des Sciences, Paris]. Comptes Rendus (France) 1959, v. 248, no. 24, p. 3418-3420.

For the spectral band corresponding to the silver transparency band, the transparent support has substantially the same optical properties if it is covered by silver or not. The phase change between a light wave reflected onto the plain support or onto the support coated with silver tends to cancel itself as well on the air side (Δr) as on the support side ($\Delta r'$), and T, R, and R′ take, for the silvered support, values close to those which they had for the plain support.

Philip, Roger.
INFLUENCE OF THE FORMATION SPEED OF A THIN FILM OF GOLD ON THE PHASE CHANGES UNDERGONE BY A LUMINOUS WAVE WHEN IT REFLECTS IN THE AIR ONTO THE METAL OR ON THE "SUPPORT" OF QUARTZ ONTO THE METAL (Influence de la Vitesse de Formation d'une Couchè Mince d'Or sur les Variations de Phase Qu'éprouve une onde Lumineuse Lorsqu'elle se Réflechit dans l'Air sur le Métal ou dans un Support en Quartz sur le Métal). [1960] 4p. 1 ref.
Order from SLA mi$1.80, ph$1.80 60-16998

Trans. of [Academie des Sciences, Paris]. Comptes Rendus (France) 1959, v. 248, no. 25, p. 3543-3545.

We studied the variation in the phase changes of a luminous wave when it reflects in the air onto the metal (Δr) or on the quartz "support" onto the metal ($\Delta r'$) as a function of the thickness of thin gold films. We compare the results obtained when the formation speed of the metallic deposit was caused to vary. (Author)

Reifenschweiler, O.
PRODUCTION OF ION RAYS FROM THE PLASMA OF GAS DISCHARGES. [1960] [45]p. 31 refs.
Order from SLA mi$3.30, ph$7.80 60-18050

Trans. of Annalen der Physik (East Germany) 1954 [6 folge] v. 14, no. 6, p. 33-53.

Acoustics

Brillouin, L.
RADIATION PRESSURE AND ITS TENSORIAL NATURE (Les Pressions de Radiation et Leur Aspect Tensoriel) tr. by John M. Taylor, Jr. [1960] 11p. 12 refs. USRL Trans. no. 5.
Order from LC or SLA mi$2.40, ph$3.30 60-21185

Trans. of Journal de Physique et le Radium (France) 1956, v. 17, p. 379ff.

Emission, absorption and reflection of elastic waves result in forces known as radiation pressure. For an unperturbed plane wave it is possible to compute the average tensor of stresses, from which the force on any obstacle can be obtained. This fundamental tensor is discussed first for a nondispersive medium and second for a dispersive medium. Some examples and applications are given. The problem of scattering by a sphere is of special interest and its discussion leads to a correct definition of the scattering cross-section. (Published English abstract)

Mawardi, Osman K.
ON ACOUSTIC RADIATION PRESSURE (Sur la Pression de Radiation en Acoustique) tr. by John M. Taylor, Jr. [1960] 15p. 27 refs. USRL Trans. no. 6.
Order from LC or SLA mi$2.40, ph$3.30 60-21469

Trans. of Journal de Physique et le Radium (France) 1956, v. 17, p. 384ff.

A critical survey for the development of the concept of radiation pressure is presented. In this survey, first restricted to an ideal inviscid fluid, the tensorial character of the radiation pressure is pointed out and its connection with the flux of momentum associated with the wave is studied. It is also shown that the two common definitions of radiation pressure (Langevin and Rayleigh) are closely related and naturally follow from the above mentioned tensor property. The discussion is then extended to the case for a viscous fluid. The interaction of sound waves and rigid obstacles of simple geometrical shapes is also discussed. The radiation pressure on these obstacles is computed for some limiting cases and the relation between the radiation pressure and the scattering cross-section for these obstacles is investigated. A review of the better known methods of experimentally measuring the radiation pressure is next given. The comparative merit of these techniques as far as accuracy of measurements is concerned has been examined in the light of the discussion of this paper. (Published English Summary)

Electricity and Magnetism

Corre, Yves, Le.
COUPLING FACTORS AND ELECTROMECHANICAL EFFICIENCY OF PIEZOELECTRIC MATERIALS (Les Coefficients de Couplage et les Rendements Électromécaniques des Matériaux Piézoélectriques) tr. by John M. Taylor, Jr. [1960] [19]p. 10 refs. USRL Trans. no. 9.
Order from LC or SLA mi$2.40, ph$3.30 60-21757

Trans. of Journal de Physique et le Radium (France) 1957, v. 18, p. 51ff.

After recalling the symbolism of the piezoelectric equations of state, we have reconsidered the definition of the various electromechanical coupling factors, the expressions for which are generally very complex. When the equations are written in two independent variables (a very common case), the square of the coupling factors as usually defined can be considered as an electromechanical efficiency. This quantity is very important in the case of acoustic transmitters and receivers. (Author)

Coumes, Andre.
FERROMAGNETIC RESONANCE AND PHASE THEORY (Resonance Ferromagnetique et Theorie des Phases). [1960] 3p. 6 refs.
Order from SLA mi$1.80, ph$1.80 60-18087

Trans. of [Academie des Sciences, Paris]. Comptes Rendus (France) 1960, v. 250, no. 5, p. 819-821.

Calculations show that the successive stages of the magnetization of a single crystalline disc (two phases, then one phase of elementary domains) manifest themselves in the ferromagnetic resonance at hyperfrequencies. The value of the exterior field corresponding to the transition of the system with two phases to the one-phase system is determined by the intersection of the curves calculated for two phases and for one phase.

Courty, Clément.
ON THE CALCULATION OF THE COEFFICIENT OF DIAMAGNETISM OF FREE ATOMS (Sur le Calcul du Coefficient d'Aimantation Diamagnetique des Atomes Libres). [1960] 2p. 10 refs.
Order from SLA mi$1.80, ph$1.80 60-16999

Trans. of [Academie des Sciences, Paris]. Comptes Rendus (France) 1959, v. 248, no. 15, p. 2179-2181.

With a screening constant deduced from the experimental energies of first ionization of the atoms, one can calculate, as a good approximation, their coefficients of diamagnetism. (Author)

Goodman, Bruce Bailey.
THE PROBABLE EXISTENCE OF SUPERCONDUCTING ELEMENTS AT EXTREMELY LOW TRANSITION TEMPERATURES (L'Existence Probable des Elements Supraconducteurs de Temperature de Transition Extremement Basse). [1960] 3p. 4 refs.
Order from SLA mi$1.80, ph$1.80 60-18088

Trans. of Academie des Sciences [Paris]. Comptes Rendus (France) 1960, v. 250, no. 4, p. 683-685.

An examination of the statistical distribution of superconducting elements, with parameter N(O)V from the theory of Bardeen, Cooper, and Schrieffer, indicates that a certain number of superconducting elements of very low transition temperatures are yet to be discovered. (Author)

Poincelot, Paul.
CRITERION OF THE UNIQUENESS OF THE SOLUTIONS TO MAXWELL'S EQUATIONS (Critère d'Unicite pour les Solutions des Equations de Maxwell). [1960] 3p. 4 refs.
Order from SLA mi$1.80, ph$1.80 60-18008

Trans. of [Academie des Sciences, Paris]. Comptes Rendus (France) 1959, v. 248, no. 15 [p. 2182-2184].

Sauzade, Michel.
STABILIZED TRANSISTOR FEED DESIGNED TO FEED AN ELECTROMAGNET USED FOR STUDIES OF NUCLEAR RESONANCE. [1960] [4]p. (1 fig. omitted) 1 ref.
Order from SLA mi$1.80, ph$1.80 60-18063

Trans. of Academie des Sciences [Paris]. Comptes Rendus (France) 1959 [v. 248, no. 2] p. 205-207. Another translation is available from SLA mi$1.80, ph$1.80 as 60-14040, Nov 59, 4p.

The feed is designed to feed a type IV Beaudoin electromagnet, the coils of which have a resistance of 4.35 ohm and a self-inductance at 50 Hz of about 50 mH. It comprises a current control acting at three low frequencies and at zero frequency and a voltage control for highest frequencies (several hertz).

Electronics

Bernas, René and Sarrouy, Joan-Louis.
NEUTRALIZATION OF THE SPACE CHARGE OF POSITIVE ION BEAMS. [1960] [5]p. 2 refs.
Order from SLA mi$1.80, ph$1.80 60-18091

Trans. of Academie des Sciences [Paris. Comptes Rendus] (France) 1951 [v. 233, no. 18] p. 1092-1094.

The method described is based on the ionization of the residual gas by accelerated positive ions.

Dreeskamp, E.
NITROGEN IONS IN PLASMA. [1960] 11p. 19 refs.
Order from SLA mi$2.40, ph$3.30 60-18048

Trans. of Zeitschrift [für] Naturforschung (West Germany) 1957, v. 12a [no. 11] p. 776-881.

The ions effusing from the plasma of a nitrogen low-pressure discharge were measured with a double-focusing mass spectrometer. Only N^+ and N_2^+ ions were observed. Their ratio was determined in the discharge in dependence on the pressure and current. The nitrogen ions were also studied mass-spectrometrically in a drift space in dependence on E/P. In addition to N^+ and N_2^+ ions, also N_3^+ ions were observed. The results may be explained by the equilibrium $N + N_2^+ \rightleftarrows N_3^+$ which depends on E/P. By calculating the radial field in front of the wall of the discharge tube, we have shown that under the conditions existing in this work, N_3^+ ions cannot be observed among the ions effusing from the plasma of a discharge, while their existence in the discharge center must be considered. (Author

Fischer, W. and Walcher, W.
EXTRACTION OF IONS FROM PLASMAS AND PLASMA-LIKE FORMATIONS. [1960] [18]p. 16 refs.
Order from SLA mi$2.40, ph$3.30 60-18046

Trans. of Z[eitschrift für] Naturforschung (West Germany) 1955, v. 10a [no. 11] p. 857-863.

Simultaneous probe and extraction measurements were carried out on an arc-ion source. Probe measurements indicate that the plasma concepts of the probe theory are applicable notwithstanding the large free path in comparison with the dimensions of the container. Since the extracted current is constant and independent of the drawing voltage, and since its current density is equal to the ion diffusion current density at the plasma boundary as found from probe measurements, the extracted current must be a pure diffusion current. The ion temperature responsible for the supply is approximately one half to one quarter of the electron temperature. Even at very low drawing voltages, a "pseudoplasma" is formed in large spaces, which combines the current, voltage and geometry, according to Langmuir-Schottky's space charge law. However, a $U^{3/2}$ law is not always dependent on the space charge boundary but also on the current distribution and the widening of the beam. (Author)

Solid State Physics

Aliyev, M., Abdullayev, G., and Mirzoyev, B.
THE CONDUCTIVITY OF THE p-n JUNCTION OF SELENIUM RECTIFIERS FOR STRONG FIELDS AND VARIOUS TEMPERATURES (Provodimost' p-n Perekhoda Selenevykh Vypryamiteley pri Sil'nykh Polyakh i Raznykh Temperaturakh). Aug 60 [14]p. 7 refs. RTS 1416.
Order from LC or SLA mi$2.40, ph$3.30 60-23622

Trans. of Akademiya Nauk Azerbaydzhanskoy SSR [Baku]. Izvestiya, 1958 [v. 15] no. 1, p. 37-45.

The increase in the conductivity in a strong field of a pure barrier layer of a selenium rectifier without artificial bromine impurities is weaker than when bromine impurities are present. By introducing bromine impurities into selenium, it is possible to vary the dependence of the resistance of the barrier layer on voltage. The change in the sign of the temperature coefficient of the reverse resistance of selenium rectifiers with a bromine impurity occurs at lower voltages and higher temperatures than artificial impurities are absent. Empirical formulae are obtained indicating that the mechanism of this phenomenon consists in the ionization of the semiconductor and impurity atoms by the field. (See also 59-19170, 60-15683)

Bundel', A. A.
THE INFLUENCE OF HEAT TREATMENT ON THE LUMINESCENCE OF ZINC SULPHIDE PHOSPHORS (Vliyaniye Termicheskoy Obrabotki na Lyuminestsentsiyu Tsinksul'fidnykh Lyuminoforov). Aug 60 [13]p. 6 refs. RTS 1291.
Order from LC or SLA mi$2.40, ph$3.30 60-23613

Trans. of Tsentral'n[yy] Nauchno-Issledovatel['skiy] Inst[itut] Rentgenol[ogii] i Radiol[ogii]. Trudy (USSR) 1955, v. 9, p. 129-136.

Donnay, Joseph D. H. and Donnay, Gabrielle.
TABLES OF MAGNETIC SPACE GROUPS (Tables de Groupes Spatiaux Magnetiques). [1960] 3p. 1 ref.
Order from SLA mi$1.80, ph$1.80 60-18041

Trans. of [Academie des Sciences, Paris]. Comptes Rendus (France) 1959, v. 248, no. 23, p. 3317-3319.

Presentation, by way of example, of the 38 space groups of Shubnikov, which derive from the point group 4/m. Let uvw be the axial vector (magnetic moment) associated with the site (xyz); the table gives the vector associated with each of the sites homologous to the general position. (Author)

Gnevushev, M. A., Kalinin, A. I. and others.
CHANGE OF UNIT CELL DIMENSIONS OF GARNETS DEPENDING ON COMPOSITION (Izmeneniye Razmerov Yacheyki Granatov v Zavisimosti ot Sostava). July 60 [22]p. 11 refs. RTS 1446.
Order from LC or SLA mi$2.70, ph$4.80 60-23808

Trans. of Vsesoyuznoye Mineralogicheskoye Obshchestvo. Zapiski (USSR) 1956, v. 85, no. 4, p. 472-490.

As a first approximation, the cell size of garnets is expressed as a linear function of the di- and trivalent cations. A formula for the cell edge a for the isomorphous series of garnets has been found: $a = 9.125 + 1.560\ r^{2+} + 2.000\ r^{3+}$, where r^{2+} and r^{3+} are mean values of the radii of di- and trivalent cations. No continuous transitions exist between pyralspites and grandites.

Gumilevskiy, A. A.
MICRO-STRUCTURE OF THE SURFACE OF BOULES OF SYNTHETIC CORUNDUM (Mikrostruktura Poverkhnosti Buley Iskusstvennogo Korunda). Aug 60 [7]p. 5 refs. RTS 1460.
Order from LC or SLA mi$1.80, ph$1.80 60-23627

Trans. of Vsesoyuznoye Mineralogicheskoye Obshchestvo. Zapiski (USSR) 1957 [v. 86] no. 6, p. 731-735.

The described formations on the side surface and the head of the boule of synthetic corundum reflect the mechanism and the conditions of growth of the boule, which, in the course of its growth in the high temperature of the crystallizing furnace, was present in a gaseous-liquid phase. The crystallizing furnace must therefore be considered as a special type of crystallizer in the full crystallographic sense.

Payen de la Garanderie, Huges and Curie, Daniel.
EMISSION SPECTRUM OF A ZINC SULFIDE ACTIVATED COPPER, IN THE REGION OF PARTIAL THERMAL EXTINCTION (Spectre d'Emission d'un Sulfure de Zinc Active au Cuivre dans la Region d'Extinction Thermique Partielle). [1960] 3p. 3 refs
Order from SLA mi$1.80, ph$1.80 60-16996

Trans. of [Academie des Sciences, Paris]. Comptes Rendus (France) 1959, v. 248, no. 22, p. 3151-3153.

To attribute the width of the spectrum emitted to the hypothesis of a band of centers would lead to a deformation of the spectrum when the temperature rises, much more intense than the one effectively observed. On the other hand, to attribute this width to the center-crystalline lattice interaction takes these observed effects into account. (Author)

Schaufler, H.
THE HALL TRANSFORMER IN CONTROL TECHNIQUE. [1960] [11]p. 3 refs.
Order from SLA mi$2.40, ph$3.30 60-16663

Trans. of Siemens Zeitschrift (West Germany) 1958, v. 32 [no. 2] p. 83-87.

The application of the Hall transformer as a current and voltage transformer for measuring purposes in control technique is analyzed.

Schillmann, E.
STRUCTURAL AND PHYSICAL EFFECTS OF IMPURITIES IN INDIUM ARSENIDE. [1960] [15]p. 13 refs.
Order from SLA mi$2.40, ph$3.30 60-16824
Trans. of Zeitschrift für Naturforschung (West Germany) 1956, v. 11a, p. 463-472.

Indium arsenide was doped in the liquid phase and solidified with unidirectional crystallization. Measurements were made of the Hall effect and conductivity. From these measurements the distribution coefficents and inequalities for the solubility of Mg, Zn, Cd, Si, Ge, Sn, S, Se and Te were determined. Ca is not soluble even in the smallest concentration used. The elements of the second and fourth groups substitute In: the second group forms acceptors, the fourth group donors. The elements of the sixth group substitute As with formation of donors. The conditions in the neighborhood of intrinsic conduction at a high ratio of electron to deficit electron mobility give rise to the zero position of the Hall coefficient. Extension of the measurements over the region 60 to 1,000°K shows that the ionization energy of all the impurity centers is less than 0.005 ev. With increasing impurity center concentration the conductivity passes through a maximum beyond which the decrease in mobility more than compensates for the increase in charge carrier density. (See also 59-17912, 59-17960)

Starodubtsev, S. V., Khiznichenko, L. P., and Domoryad, I. A.
CHANGES IN ELASTIC CONSTANTS OF QUARTZ FIBERS UNDER THE ACTION OF GAMMA RADIATION FROM Co^{60} (Izmeneniye Uprugikh Konstant Kvartsevykh Nitey pod Deystviyem Gamma-izlucheniy Co^{60}) tr. by E. W. Kammer. 1960. [5]p. 7 refs.
N R L Trans. no. 813.
Order from OTS $0.50 60-21933

Trans. of Akademiya Nauk SSSR. Doklady, 1960, v. 132, no. 4, p. 803-805.

Zaborenko, K. B., Babeshkin, A. M., and Beyevska, V. A.
APPLICATION OF THE EMANATION METHOD TO THE STUDY OF PROCESSES OCCURRING IN SOLIDS DURING THEIR HEATING. [1960] 10p.
Order from ATS $13.50 ATS-51M42R

Trans. of Radiokhimiya (USSR) 1959, v. 1, no. 3, p. 336-345.

Zvonkova, Z. V.
CRYSTAL STRUCTURE OF THIOCYANATES. VIII. CRYSTAL STRUCTURE OF RHODIUM HEXATHIOCYANATE. Aug 60 [7]p. 6 refs. RTS 1431.
Order from LC or SLA mi$1.80, ph$1.80 60-23623

Trans. of Zhurnal Fizicheskoy Khimii (USSR) 1953, v. 27, no. 1, p. 100-105.

Crystalline $K_3Rh(CNS)_6$ belongs to the trigonal system having the cell dimensions a=7.07 and C=22.75 A, an X-ray density $\sigma_x = 1.93$, the number of molecules per unit cell z=2, and the space group D^4_{3d} - $C\bar{3}cl$. The structure of $K_3Rh(CNS)_6$ has been derived from the projection of electron density and from a Harker section of three-dimensional vector models. The structure of the complex ion $Rh(CNS)_6^{3-}$ has been established. (Author) (See also 60-23566)

Theoretical Physics

Destriau, Georges.
EXCITATION OF LUMINESCENCE BY VARIABLE ELECTRIC FIELDS, PRIMARY EFFECT. [1960] 6p. 7 refs.
Order from SLA mi$1.80, ph$1.80 60-18085

Trans. of [Journal de Physique et le Radium] (France) 1953, v. 14 [no. 5] p. 307-[310].

Shirokov, M. F. and Prudkovskaya, O. V.
OSCILLATIONS OF ELECTRON-ION PLASMAS, tr. by B. W. Kuvshinoff. 29 June 60 [12]p. 26 refs. TG 230-T161.
Order from OTS $0.50 60-21787

Trans. of Nauchnyye Doklady Vysshey Shkoly. Rizikomatematicheskiye Nauki (USSR) 1958, no. 2, p. 192-199.

An extremely general system of equations of motion and electrodynamics is obtained for electron-ion plasmas. On the basis of this system the existence of three basic types of plasma oscillations is shown. Equations for diffusion oscillations of electron-ion gas and the usual equation for acoustic vibrations of neutral gas are derived. (Applied Physics Lab. abstract)

RESEARCH METHODS, TECHNIQUES AND EQUIPMENT

CURRENT REVIEW OF THE SOVIET TECHNICAL PRESS, 22 JULY 60-9 SEP 60. [1960] 8 nos.
Order from OTS $7.00/6 mos. 60-21441(11-18)

Contains reviews in English of Soviet press articles.

GENERAL MEETINGS OF THE DEPARTMENTS OF THE ACADEMY OF SCIENCES. 18 Aug 60, 40p. JPRS: 3704.
Order from OTS $1.00 60-31677

Trans. of Akademiya Nauk SSSR. Vestnik, 1960 [v. 30] no. 5, p. 32-61.

Berg, A. I.
SOME PROBLEMS IN CYBERNETICS. 17 Sep 60, 15p. JPRS: 3953.
Order from OTS $0.50 60-31/81

Trans. of Voprosy Filosofii (USSR) 1960, no. 5, p. 51-62.

A general statement on the aims and potentialities of cybernetics prefaces a discussion on molecular electronics: It is suggested that the field of superminiaturization can open a new era in electronic automation. Mathematicians of Moscow State University have synthesized a contact relay circuit, without duplicating components, which is not disrupted by short circuit.

Botte, O. V.
SESSION OF THE DEPARTMENT OF TECHNICAL SCIENCES OF THE ACADEMY OF SCIENCES UkSSR IN THE CITY OF LUGANSK. 15 Mar 60, 5p. JPRS: 2359.
Order from OTS $0.50 60-11389

Trans. of Prykladna Mekhanika (USSR) 1959, v. 5, no. 4, p. 455-456.

Topics are noted of papers that were read at the session held from 9 to 11 June (1959?). The session was devoted to problems of mechanization and automation of production processes, particularly in metallurgy, mining, and machine-building.

Vvedenskiy, B., Shaumyan, L., and Gershberg, S.
UKRAINIAN ENCYCLOPEDIA; ON THE PUBLICATION OF THE FIRST VOLUME OF THE UKRAINIAN SOVIET ENCYCLOPEDIA. 8 Aug 60, 6p. JPRS: 3681.
Order from OTS $0.50 60-31643

Trans. of Izvestiya (USSR) 1960, v. 44, no. 64(13300) p. 4.

This is a press release announcing the publication of the first volume of the Ukrainian Soviet Encyclopedia (USE). The USE is to be in 16 volumes with more than 50,000 articles, all in the Ukrainian language. In addition to being a universal encyclopedia, comparable to the Russian-language Great and Small Soviet Encyclopedias, the USE will contain more detailed information on the Ukraine than is contained in other encyclopedias.

Communication Theory

Dobrushin, R. L.
TRANSMISSION OF INFORMATION IN A CHANNEL WITH FEEDBACK, tr. by B. W. Kuvshinoff. 8 June 60 [24]p. 10 refs. TG 230-T134.
Order from OTS $0.75 60-21789

Trans. of *Teoriya Veroyatnostey i Yeye Primeniya (USSR) 1958, v. 3, no. 4, p. 395-412.

Proof is offered that feedback does not increase the capacity of channels without memory. Also some simple channels with memory are considered, and their capacities with and without feedback are compared. (Applied Physics Lab. abstract)

Shannon, Claude E.
A GEOMETRIC INTERPRETATION OF SOME RESULTS FOR THE CALCULATION OF CHANNEL CAPACITY. 29 Feb 60 [10]p. 3 refs.
Order from SLA mi$1.80, ph$1.80 60-18053

Trans. of NTZ; Nachrichtentechnische Zeitschrift (West Germany) 1957, v. 10, no. 1, p. 1-4.

This paper demonstrates the mathematical properties of a finite discrete communication channel without memory. A geometric interpretation is used which based on the theory of convex sets. (Translator's abstract)

SOCIAL SCIENCES

Touraine, Alain.
QUALIFICATION, WAGE, AND HOMOGENEITY OF THE WORKER GROUP (Qualification, Salaire et Homogénéité du Groupe Ouvrier). [1960] [15]p.
Order from SLA mi$2.40, ph$3.30 60-18033

Trans. of Revue Economique (France) 1957, no. 5, p. 841-850.

The evolution starts with a worker class unified culturally and diversified occupationally in order to attain a worker class diversified culturally but united occupationally. Wage, which was formerly the result of occupational differentiation, tends to become the cause of social and cultural differentiation in the highest technically developed industrial sectors.

BOOK REVIEWS

The following book reviews can be ordered by number from LC or SLA. Each review includes in addition to the material shown, a detailed statement of the coverage of the book and a detailed table of contents. The length of each review is indicated at the end of the entry.

BR-SOV/3471
Romanovskiy, V. P.
SPRAVOCHNIK PO KHOLODNOY SHTAMPOVKE (Handbook on Cold Pressworking) 3rd ed., rev. and enl. Moscow, Mashgiz, 1959. 648p. Errata slip inserted. 30,000 copies printed. 4p. Mi $1.80, ph $1.80.

BR-SOV/3937
Filippov, Viktor Vasil'yevich, and others
MEKHANIZATSIYA I AVTOMATIZATSIYA SHTAMPOVKI (Mechanization and Automation of Cold Stamping) Moscow, Mashgiz, 1960. 184p. Errata slip inserted. 5,000 copies printed. 2p. Mi $1.80, ph $1.80.

BR-SOV/3942
Zaveryukha, Nikita Vasil'yevich, and others
RAZLIVKA STALI V SOVREMENNYKH MARTENOVSKIKH TSEKHAKH (Teeming of Steel in Modern Open-Hearth Furnace Plants) Sverdlovsk, Metallurgizdat, Sverdlovskoye otd-niye, 1959. 215p. Errata slip inserted. 2,800 copies printed. 2p. Mi $1.80, ph $1.80.

BR-SOV/3966
Yampol'skiy, Anatoliy Mikhaylovich
GAL'VANOTEKHNIKA DRAGOTSENNYKH I REDKIKH METALLOV (Electroplating With Precious and Rare Metals) Moscow, Mashgiz, 1958. 41p. (Series: Bibliotechka gal'vanotekhnika, vyp. 7) Errata slip inserted. 8,000 copies printed. 2p. Mi $1.80, ph $1.80.

BR-SOV/3968
Bibikov, Nikolay Nikolayevich
GAL'VANICHESKIYE POKRYTIYA NA TOKE PERIEMENNOY POLYARNOSTI (Electroplating With Alternating-Polarity Current) Moscow, Mashgiz, 1958. 47p. (Series: Bibliotechka gal'vanotekhnika, vyp. 10) 7,000 copies printed. 2p. Mi $1.80, ph $1.80.

BR-SOV/4042
Leningrad. Universitet
POLYARIZATSIONNO-OPTICHESKIY METOD ISSLEDOVANIYA NAPRYAZHENIY; TRUDY KONFERENTSII 13-21 FEVRALYA 1958 GODA (Optical Polarization Method for Stress Analysis; Transactions of the Conference of February 13-21, 1958). [Leningrad] Izd-vo Leningradskogo univ., 1960. 451p. Errata slip inserted. 2,400 copies printed. 6p. Mi $1.80, ph $1.80.

BR-SOV/4045
Kalinin, S. K. and others
ATLAS SPEKTRAL'NYKH LINIY DLYA KVARTSEVOGO SPEKTROGRAFA (Atlas of Spectral Lines for the Quartz Spectrograph). Moscow, Gosgeoltekhizdat, 1959. 43p. 23 charts [in portfolio] Errata slip inserted. 5,000 copies printed. 3p. Mi $1.80, ph $1.80.

BR-SOV/4046
Akademiya meditsinskikh nauk SSSR. Institut gigiyeny truda i profzabolevaniy
MATERIALY PO TOKSIKOLOGII RADIOAKTIVNYKH VESHCHESTV. vyp. 2: RADIOAKTIVHYYE KOBAL'T, NATRIY, FOSFOR, ZOLOTO (Material on the Toxicology of Radioactive Substances. No. 2: Radioactive Cobalt, Sodium, Phosphorus, and Gold). Moscow, Medgiz, 1960. 169p. Errata slip inserted. 3,000 copies printed. 3p. Mi $1.80, ph $1.80.

BR-SOV/4049
Krasil'nikov, Vladimir Aleksandrovich
ZVUKOVYYE I UL'TRAZVUKOVYYE VOLNY V VOZDUKHE, VODE I TVERDYKH TELAKH (Sound and Ultrasonic Waves in Air, Water, and Solids). 3rd ed., rev. and enl. Moscow, Fizmatgiz, 1960. 560p. 10,000 copies printed. 6p. Mi $1.80, ph $1.80.

BR-SOV/4068
Akademiya nauk SSSR. Sovet po seysmologii
BYULLETEN', No. 8: VOPROSY SEYSMICHESKOGO RAYONIROVANIYA (Bulletin of the Council on Seismology, Academy of Sciences USSR, No. 8: The Problems of Division Into Seismological Districts) Moscow, 1960. 233p. 1,300 copies printed. 3p. Mi $1.80, ph $1.80.

BR-SOV/4069
Levinson, Yevgeniy Maksimovich
SOVREMENNOYE SOSTOYANIYE ELECTROISKROVOY OBRABOTKI METALLOV; OBZOR (Present State of Electric-Spark Machining of Metals; Review) Leningrad, 1958. 107p. 6,200 copies printed. 2p. Mi $1.80, ph $1.80.

BR-SOV/4070
Gel'fond, Aleksandr Osipovich
ISCHISLENIYE KONECHNYKH RAZNOSTEY (Calculus of Finite Differences). 2d ed., enl. Moscow, Fizmatgiz, 1959. 400p. 8,000 copies printed. 5p. Mi $1.80, ph $1.80.

BR-SOV/4073
PROBLEMY KIBERNETIKI, vyp. 3 (Problems in Cybernetics, No. 3) Moscow, Fizmatgiz, 1960. 282p. 15,000 copies printed. 2p. Mi $1.80, ph $1.80.

BR-SOV/4080
Shchukin, A. N.
TEORIYA VEROYATNOSTEY I EKSPERIMENTAL'NOYE OPREDELENIYE KHARAKTERISTIK

SLOZHNYKH OB"YEKTOV (Theory of Probability and Experimental Determination of the Characteristics of Complex Objects) Moscow, Gosenergoizdat, 1959. 111p. Errata slip inserted. 8,000 copies printed. 2p. Mi $1.80, ph $1.80.

BR-SOV/4081
Kulikov, Georgiy Petrovich
MINERALOKERAMIKA I SKOROSTNOYE REZANIYE (Ceramic Materials and High-Speed Cutting) Rostov-na-Donu, Rostovskoye knizhnoye izd-vo, 1958. 38p. Errata slip inserted. 1,000 copies printed. 2p. Mi $1.80, ph $1.80.

BR-SOV/4097
Gavrilov, Mikhail Aleksandrovich
NOVYYE IDEI V OBLASTI AVTOMATIKI (New Ideas in the Field of Automation) Moscow,, 1959. 43p. 10,000 copies printed. 1p. Mi $1.80, ph $1.80.

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CHEMICAL PROTECTION OF THE BODY FROM IONISING RADIATION.
mono. Khimicheskaya Zashchita Organizma ot Ioniziruyushchikh Izlucheniy [Moscow] 1960 [152]p.

Belyayev, D. V.
THE METALLURGY OF TIN.
mono. Metallurgiya Olova [Moscow] 1960.

Bogdanowicz, J. and Dziezyc, J.
THE SELECTION OF TRACTORS AND AGRICULTURAL IMPLEMENTS, ACCORDING TO SOIL CONDITIONS AND CONFIGURATION OF THE AREA
(Dobor Ciagnikow i Narzedzi Rolniczych w Zaleznosci od Warunkow Glebowych i Rzezby Terenu).
PL-480 Nowe Roln[ictwo] (Poland) 1957, no. 18, p.785-787.

Burnazyan, A. I. and Lebedinskiy, A. V., eds.
RADIATION MEDICINE.
mono. Radiatsionnaya Meditsina, pub. by Atomizdat, 1960.

Chelyustkin, Aleksandr Borisovich
PROBLEMS IN THE AUTOMATION OF THE METALLURGICAL INDUSTRY.
mono. Problemnyye Voprosy Avtomatizatsii Metallurgicheskoy Promyshlennosti [Moscow] 1960]68]p.

Ciric, Milivoye, and others
SOILS OF YUGOSLAVIA.
PL-480 mono., 450p.

Ciric, Milvoye
PRIMARY PARTICLES IN THE PODZOLATED SOILS.
PL-480, Arhiv za Poljoprivredne Nauke (Yugoslavia) 1952, no. 7, 9p.

Czyzyk, W.
SOIL DISPLACEMENT ON THE SLOPE DUE TO PLOUGHING.
(Przemieszczanie Gleby na Zboczu pod Dzialaniem Orki).
PL-480 Roxzn[iki] Nauk Roln[iczych] (Poland) 1955, v. 71-F-1, p. 73-87.

Gefter, Ye. L.
ORGANOPHOSPHORUS COMPOUNDS.
mono. Fosforganicheskiye Monomery i Polimery [Moscow] 1960 [288]p.

Haman, J.
THE PROBLEM OF EXPLORATION ON PLOUGHING RESISTANCE.
(W Sprawie Badan nad Oporami Orki).
PL-480 Post[epy] Nauk Roln[iczych] (Poland) 1956, no. 2, p. 73-76.

Haman, J.
WORK MECHANIZATION IN ERODED TERRITORY
(Mechanizasja Prac na Terenach Ulegajacych Erozji).
PL-480 Mechan[izacja] Roln[ictwa] (Poland) 1955, no. 7, p. 15-16.

Hlibowicki, R.
SOIL DISPLACEMENT AND THE SHAPE OF THE CULTIVATED FIELDS.
(Przemieszczenie Gleb i Ksztalt pol Uprawnych).
PL-480 Roxzn[iki] Nauk Roln[iczych] (Poland) 1955, v. 71-F-1, p. 89-110.

Irodov, Igor Yevgen'yevich
COLLECTION OF PROBLEMS ON ATOMIC PHYSICS.
mono. Sbornik Zadach po Atomnoy Fizike [Moscow] 1959 [150]p.

Jankowski, A.
AN EXAMINATION OF PLOUGHING ON SLOPES FROM THE VIEWPOINT OF EROSION CONTROL.
(Badania Orek na Zboczach z Punktu Widzenia Walki z Erozja).
PL-480 Gosp[odarka] Wodna (Poland) 1956, no. 6, p. 263-266.

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(Orka na Zboczah z Punktu Widzenia Wakli z Erozja Gleb).
PL-480 Roxzn[iki] Nauk Roln[iczych] (Poland) 1959, v. 73-F-4, p. 679-712.

Khrabrov, Yuriy B.
METHODS OF WEATHER FORECASTS FOR 3 TO 7 DAYS.
PL-480, mono. Metodika Sostaveviya Prognozov Pogody na 3-7 Dney, Moscow, 1959, 120p.

Kuramzhin, A. V.
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mono. Stroganiye [Moscow] 1959.

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CONSIDERATIONS ON THE THEORY OF THE WORK OF AGRICULTURAL IMPLEMENTS (Rozwazania

Dotyczace Teorii Pracy Narzedzi Rolniczych).
PL-480 Roxzn[iki] Nauk Roln[iczych] (Poland) 1955, v. 71-F-1, p. 57-72.

Matuka, S. and Topolnik, E.
CULTIVATION OF B. LARVAE ON MEDIA WITH THIAMIN.
(Uzgajanje B. Larvae na Gojilistu s Tiaminom).
PL-480 Veterinarski Arhiv (Yugoslavia) 1952, no. 22(9/10), p. 375-377.

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SIGNIFICANCE OF LARVAL FOOD IN THE ETIOLOGY OF AMERICAN AND EUROPEAN FOUL BROOD.
(Uloga Mlijeci u Etiologiji Opake i Blage Gnjiloce Pcelinjeg Legia).
PL-480 Veterinarski Arhiv (Yugoslavia) 1952, no. 22(3/4), p. 151-156.

Oswiecimski, A.
SOIL CONDITIONS AND THE PLANNED MEASURES AGAINST SOIL EROSION IN THE MIDDLE SUDETEN.
(Warunki Terenowe i Projektowana Walka z Erozja Gleb a Sudetach Srodkowych).
PL-480 Gosp[odarka] Wodna (Poland) 1955, no. 6, p. 267-268.

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PRODUCTION OF OLEFIN-CONTAINING AND FUEL GASES.
mono. Proizvodstvo Olefinosoderzhashchikh i Goryuchikh Gazov [Moscow] 1960 [233]p.

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PHYSICS OF INTERSTELLAR SPACE.
mono. Fizika Mezhzvezdnoy Sredy [Moscow] 1959 [215]p.

Pobegajlo, Dr. Ignjat
EXPERIMENTS ON FIGHTING BEE FOUL BROOD-STREPTOMICINE THERAPY.
PL-480 Sarajeva u [Poljprivredno-Sumarski Fakultet.] Radovi (Yugoslavia) 1955, v. 1, 16p.

Pobegajlo, Dr. Ignjat
MACRO- AND MICROSCOPICAL STUDY OF FOUL BROOD AND ITS FIGHTING.
PL-480 Sarajevo u Polj[privredno]-Sumarski Fakultet. Radovi (Yugoslavia) 1957, 156p.

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THE CONTROL OF THE CHERRY FLY ON THE COAST OF SLOVENIA (Suzbijanje Muhe Tresnjarice u Slovenskom Primorju).
PL-480 [Zastita Bilja] (Yugoslavia) 1954, no. 24, p. 79-86.

Reniger, A.
SOIL CREEP ON SULTIVATED SLOPES.
(Splyw Gleb na Uprawianych Zboczach)
PL-480 Roczn[iki] Nauk Rolniczych] (Poland) 1955, v. 71-F-1, p. 21-44.

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(Zalozenia Konstrukcyjne Maszyn Pracujacych na Zboczach).
PL-480 Mechan[izacja] Roln[ictwa] (Poland) 1956, no. 10, p. 15-17.

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THE TISSUE DOSE OF NEUTRONS.
mono. Tkanevaya Doza Neytronov [Moscow] 1960 [219]p.

Sheleykhovskiy, G. V.
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PL-480 Zadymleniye Gorodov, Moscow, 1949, 328p.

Smirnov, V. I.
A COURSE OF HIGHER MATHEMATICS, tr. by Richard A. Silverman.
mono. Kurs Vysshey Matematiki, Moscow, 6v.

Tadic
THE BIONOMICS OF CYDIA POMONELLA AS A BASIS FOR ITS CONTROL.
(Jabucni Smotovac Carpocapsa Pomonella L. Biologia Kao Osnova za Njegovo Suzbijanje).
PL-480 [Zastita Bilja] (Yugoslavia) 1957, no. 4, 100p.

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FURTHER INVESTIGATIONS ON THE OCCURRENCE OF STREPTOCOCCUS LIQUEFACIENS WITH E. F. B.
(Dalja Istrazivanja o Pojavi Sc. Liquefaciens kod Evropske Gnjiloce Pcelinjeg Legla).
PL-480 Veterinarski Arhiv (Yugoslavia) 1958, no. 28(7/8), p. 236-242.

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(O Pluton-Oblicima u Mikroskopskoj Slici kod Blage Gnjiloce Pcelinjeg Legla).
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INVESTIGATIONS ON THE CHERRY FRUIT-FLY IN DALMATIA.
(Ispitivanja Nuhe Tresnjarice u Dalmaciji).
PL-480 [Zastita Bilja] (Yugoslavia) 1954 no. 23, p. 44-62.

Trifonov, Dmitriy Nikolayevich
RARE-EARTH ELEMENTS.
mono. Redkozemel'nyye Elementy [Moscow] 1960 [131]p.

Vazlav, Vladislav
IMPORTANCE OF THE APPLE AND PLUM MOTH PARASITES IN THE DECREASEMENT OF POPULATION OF THIS IMPORTANT PEST IN BOSNIA AND HERZEGOVINA.
PL-480 Zastita Bilja (Yugoslavia) 1958, 8p.

Verkhovskiy, Boris Isaakovich
THE USE OF RADIOACTIVE ISOTOPES IN THE CHECKING OF INDUSTRIAL PROCESSES.
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Wosiek J.
THE USE OF AGRICULTURAL MACHINES IN MOUNTAIN AREAS.
(Wykorzystanie Maszyn Rolniczych w Terenie Gorskim).
PL-480 Nowe Roln[ictwo] (Poland) 1956, v. 9, p. 718-720

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